INVITATION
FOR BID

INVITATION FOR BID # 10PB002

SCOTTSDALE PROJECT NO. T0703
ADOT PROJECT NO. ARRA-SCT-0(200)A
ADOT TRACS NO. 0000 MA SCT SL602 01C

CROSSCUT CANAL MULTI-USE PATH PHASE II

NOTICE TO PROSPECTIVE BIDDERS

The City of Scottsdale requires all Liability and Excess insurance carriers to be licensed in the State of Arizona and have a "RATING OF "B++VI" OR BETTER AS PUBLISHED BY THE A.M. BEST COMPANY".

THE CITY OF SCOTTSDALE REQUIRES THE INSURANCE FORM ATTACHED TO THE PROJECT SPECIFICATIONS BE USED FOR THIS PROJECT.

THE PROJECT IS PARTIALLY FUNDED WITH FEDERAL-AID FUNDS; THEREFORE, CERTAIN FEDERAL-AID CONTRACT REQUIREMENTS SHALL APPLY TO THE PROJECT AS NOTED HEREIN.

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INVITATION FOR BID # 10PB002

COS PROJECT NUMBER : T0703

PROJECT NAME: CROSSCUT CANAL MULTI-USE PATH PHASE II

NOTICE INVITING BIDS

The City of Scottsdale invites sealed bids for all labor, equipment, and materials necessary for the construction of the improvements for CROSSCUT CANAL MULTI-USE PATH PHASE II identified within the contract documents.

SUBMITTAL RECEIPT AND OPENING

SEALED SOLICITATION SUBMITTALS WILL BE RECEIVED until **3:00 P.M., LOCAL TIME, DECEMBER 15 2009** at the Purchasing Department Front Desk located on the second floor of the Scottsdale Corporation Yard Building at 9191 E. San Salvador Dr., Scottsdale, AZ 85258. **All submittals must be date and time stamped at the Purchasing Department front desk on or before the submittal receipt time and date. LATE SUBMITTALS WILL NOT BE ACCEPTED.** To allow staff to complete required internal administrative functions, submittals will be opened and read as a matter of public information within thirty (30) minutes after the receipt time and date have past. Each Submittal shall be accompanied by a Cashier's Check or a Bid Bond, acceptable to the City of Scottsdale, for a sum of not less than ten percent (10%) of the amount of the bid made payable to the City of Scottsdale.

PRE-BID CONFERENCE

A Pre-Bid Conference will be held at **9:30 A.M., Local Time, December 2, 2009** in the Wrangler Room, located on the First Floor of the Scottsdale Corporation Yard Building, 9191 E. San Salvador Dr., Scottsdale, AZ. All bidders are urged to attend.

Contact Karie Ingles, Bid & Contract Specialist at 480-312-5744 for additional information.

All solicitation documents; plan sheets/drawings and addenda are available for download in PDF format. Vendors may print their own copies of these documents or provide the files to any reprographics/copy center in their area. Vendors will no longer be able to pick-up these documents at the Purchasing Department and plan shipments will no longer be available. There will be one set of plan sheets/drawings available for onsite review only at the Purchasing office located at 9191 E. San Salvador Dr., Scottsdale, AZ 85258.

It is imperative that you are a registered Plan Holder with the City for any construction related project in order to be notified of associated addenda.

All procurement activities, conducted by the City of Scottsdale, are in conformance with the rules and regulations of the Scottsdale Procurement Code. A copy of the Code is available for review in the Office of the City Clerk, City Hall, 3939 Drinkwater Blvd., and the Purchasing Office, 9191 E. San Salvador Dr., Scottsdale, AZ and from the Purchasing website http://www.scottsdaleaz.gov/vendors/Procurement_Code.asp. Copies of the Code are also available for purchase, for a fee of $10.00, at the Purchasing Office.

Karie Ingles, CPPB
Bid & Contract Specialist
480-312-5744
kingles@scottsdaleaz.gov

PURCHASING WEB SITE

The Purchasing web site provides a wide variety of information including: capability to download solicitations and plan sheets, invoicing guidelines, how to introduce your products, list of Buyers commodity lines, etc. The web site can be accessed at http://www.scottsdaleaz.gov/vendors.asp. Registering and downloading a solicitation will also provide the supplier with notices of all addendums that are issued.

The City of Scottsdale does not maintain a vendor list, however, on the City's main web site page, select the Email Subscriptions link and subscribe to receive a notification of Solicitation Opportunities every Tuesday and Thursday – www.scottsdaleaz.gov

CONTRACT AWARD NOTIFICATION

NOTIFICATION OF INTENT TO AWARD

Intent to Award notices will be posted on Purchasing's web site at the link provided below.

https://eservices.scottsdaleaz.gov/eServices/Solicitations/Awards.aspx?CID=10

The City Council may award contracts for construction and professional services exceeding the formal procurement limit. All other contracts exceeding the formal procurement limit may be administratively awarded by the Purchasing Director.

It is the bidder's responsibility to access this page from the City of Scottsdale Purchasing website link provided above to view Purchasing's Notice of Intent to Award listings. This is the only notification you will receive regarding the posting of Notices of Intent to Award.

In the event you have questions or concerns regarding any of the proposed contracts please contact the Purchasing Department at 480-312-5700 and your call will be directed to the staff person handling the solicitation.

CONTRACT AWARDS

Once a solicitation has been awarded, it will be listed on Purchasing's website on the Solicitation Awards page:

https://eservices.scottsdaleaz.gov/eServices/Solicitations/Awards.aspx?CID=10

The Invitation for Bid includes the following documents:

These Instructions to Bidders, General Terms and Conditions and Special Provisions,

Schedule of Bid Items,

Federal Aid Contract Provisions, List of Subcontractors, Suppliers, Service Providers and Manufacturers Bidding ADOT Contracts,

Required Contract Provisions All Federal-Aid Construction Contracts (Form FHWA 1273 Revised March, 1994),

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981,

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981,

Equal Employment Opportunity Compliance Reports, Federal-Aid Projects, February 1, 1977, Revised July 1, 1978, Revised November 3, 1980, Revised April 15, 1981, Revised September 7, 1983, Revised October 15, 1998, Revised January 1, 2005, and Revised August 2005,

Federal-Aid Proposal (Notices to Prospective Federal-Aid Construction Contractors), September 29, 1975,

Wage Determination Decision,

Disadvantage Business Enterprises (EPRISE, 05/30/08)

American Recovery and Reinvestment Act (ARRA) Requirements (ARRA, 3/26/09)

ARRA Workforce Report Form (FHWA-1589), along with guidelines for use (Appendix R).

DOCUMENTS REQUIRED FOR BID SUBMISSION

No bid shall be considered unless the following documents have been completely executed:

Schedule of Bid Items,

Bid Form (with Acknowledgement of Receipt of Addenda),

Bid Bond,

Federal-Aid Contract Provisions, List of Subcontractors, Suppliers, Service Providers and Manufacturers Bidding on City of Scottsdale Federal-Aid Contracts,

Certification With Regard to the Performance of Previous Contracts or Subcontracts Subject to the Equal Opportunity Clause and the Filing of Required Reports, Federal Aid Projects, April, 1969, Rev. July, 2003, and

DOCUMENTS REQUIRED FOR BID SUBMISSION – CONT'D

Non-Collusion Bidding Certification

PROPOSAL GUARANTY

Each bidder is advised to satisfy itself as to the character and the amount of the proposal guaranty required in the Advertisement for Bids.

CONTRACT DOCUMENTS

The bidder to whom an award is made will be required to execute a Performance Bond and a Payment Bond, each in 100 percent of the amount of the bid, an Insurance Certificate and the Contract Agreement.

Contract Agreement

Statutory Payment Bond

Statutory Performance Bond

Certificate of Insurance

A copy of these documents is included in this Proposal Pamphlet.

SUBMITTING BIDS

No Bid will be considered unless it is submitted on the bid forms contained herein.

All submittals must be presented in a sealed envelope or box. The outside of the submittal must be clearly marked with the solicitation number, solicitation title and the submitting company's name. This includes envelopes delivered by Fed Ex, UPS, DHL or other carrier.

SUBMITTALS MUST BE OFFICIALLY TIME AND DATE STAMPED AT THE FRONT DESK OF THE PURCHASING OFFICE located on the second floor of the Scottsdale Corporation Yard Building located at 9191 E. San Salvador Dr., Scottsdale, AZ 85258.

If you wish to mail your submittal, please note that it is the vendor's responsibility to ensure the submittal is received at the Front Desk of the Purchasing Office with enough time to have it time and date stamped on or before the solicitation receipt date and time. Faxed or emailed submittals will not be accepted. ***LATE SUBMITTALS WILL NOT BE CONSIDERED.***

Bids received after the time and date specified will be returned to the bidder unopened. A bid may be withdrawn prior to the time set for opening bids.

Section 103.3 of the MAG Standard Specifications, second paragraph, shall be deleted and replaced with following:

No bid may be withdrawn for a period of one hundred eighty (180) days after the date set for receipt of bids.

SUBMITTING BIDS – CONT'D

Bids accepted by the City constitute a legally binding offer. In addition, the successful bidder will be required to sign the City of Scottsdale standard construction contract.

BIDDING REQUIREMENTS AND CONDITIONS

Preparation of Proposal
Section 102.5 of the MAG Standard Specifications is modified to add:

> The signature of the bid proposal by a bidder constitutes the bidder's certification, under penalty of perjury under the laws of the United States, that the bidder, or any person associated therewith in the capacity of owner, partner, director, officer, principal investor, project director, manager, auditor, or any position involving the administration of federal funds, has not been, or is not currently, under suspension, debarment, voluntary exclusion or been determined ineligible by any federal agency within the past three years. Signature of the bid proposal also certifies, under penalty of perjury under the laws of the United States, that the bidder does not have a proposed debarment pending. In addition, signature of the bid proposal certifies that the bidder has not been indicted, convicted, or had a civil judgment rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

Any exceptions to the above paragraph shall be noted and fully described on a separate sheet and attached to the bid proposal.

NON-COLLUSION AFFIDAVIT

In connection with the performance of this solicitation or any resulting Contract, the Bidder shall submit a completed and Notarized Non-Collusion Affidavit, stating and certifying that said Contractor/Company has not either directly, or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive proposing in connection with the preparation or submission of its Bid in response to this solicitation or any potential resulting Contract. The Bidder is to return the completed and notarized Non-Collusion Affidavit with their bid submittal.

Section 102.9, Submission of Proposal, of the MAG Standard Specifications is modified to add:

(A) Non-Collusion Certification, Lobbying:

The bidder certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract grant, loan, or cooperative agreement.

NON COLLUSION AFFIDAVIT – CONT'D

(2) If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. Copies of Form-LLL, "Disclosure Form to Report Lobbying", are available at ADOT Contracts and Specifications Services, 1651 W. Jackson, Room 121F, Phoenix, AZ 85007.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The bidder also agrees, by submitting his or her bid or proposal, that he or she shall require that the language of this certification be included in all subcontracts and lower tier subcontracts which exceed $100,000 and that all such subcontractors and lower tier subcontractors shall certify and disclose accordingly.

The City will keep the prime contractors' certifications on file as part of their original bid proposals. Each prime contractor shall keep individual certifications from all subcontractors and lower tier subcontractors on file. Certifications shall be retained for three years following completion and acceptance of any given project.

Disclosure forms for the prime contractor shall be submitted to the Engineer at the pre-construction conference. Disclosure forms for subcontractors and lower tier subcontractors shall be submitted to the Engineer by the prime contractor along with the submittal of each subcontract or lower tier subcontract, as required under Subsection 108.01, when said subcontracts exceed $100,000.00. During the performance of the contract the prime contractor and any affected subcontractors shall file revised disclosure forms at the end of each calendar year quarter in which events occur that materially affect the accuracy of any previously filed disclosure form. Disclosure forms will be submitted by the Engineer to the Federal Highway Administration for further processing.

IMMIGRATION LAW COMPLIANCE

By the submittal of its Bid/Proposal, the Bidder certifies and warrants that for all solicitations for services (including construction services) it has complied with the E-Verify Program as required by ARS § 23-214(A), will have complied with the requirements of the E-Verify Program before bid award. Failure to comply with the E-Verify Program may result in the automatic disqualification of the Bid/Proposal as being non-responsive or the termination of any contract awarded and the possible forfeiture of any applicable bond.

The City will include specific "Compliance with Federal and Arizona State Immigration Laws" language in any contract or subcontract it with the successful Bidder/Proposer. In addition, this language must be included in any subcontracts that the successful bidder enters it with its subcontractors.

BONDS REQUIRED

a) Each bid must be accompanied by a cashier's check made payable to the order of City of Scottsdale in the sum of not less than 10% of the total bid, or a bond with sufficient sureties to be approved by the City in a sum equal to 10% of the total bid, and naming City of Scottsdale as obligee. Bid Security shall be returned to all except the two lowest responsible bidders within ten (10) days after the opening of bids, and the remaining securities returned within three (3) days after the bidder to whom the City Council has awarded the contract has executed the contract.

b) Bonds in the following amounts will be required at the time of executing the formal contract and shall be made payable to the City of Scottsdale.

   (1) Performance Bond - One Hundred (100%) percent of the contract price.

   (2) Payment Bond - One Hundred (100%) percent of the Contract price.

c) At the time of approval of any additional work by CHANGE ORDER, the Contractor may be required to provide an additional amount for Performance Bond and/or Payment Bond as deemed appropriate by the Contract Administrator or designee.

d) Performance and Payment Bonds must be submitted on Statutory Forms provided herein.

e) Each bond shall be executed solely by a surety company or companies holding a Certificate of Authority to transact surety business in the State of Arizona issued by the Director of the State Department of Insurance pursuant to Arizona Revised Statutes Title 20, Chapter 2, Article 1. The bonds shall not be executed by an individual or personal surety or sureties. Additionally the surety company issuing any bond shall have an A.M. Best Company Inc. Financial Strength Rating of not less than " A-VI ".

SOLICITATION QUESTIONS

The Bidder shall submit all questions, requests for clarification and inquiries in regards to this Solicitation to the Purchasing Division in writing, no less than eight (8) days prior to the original Solicitation opening date. It is preferred that all questions be submitted via email to the appropriate purchasing staff kingles@scottsdaleaz.gov where possible. When submitting any questions the Bidder should indicate the page number, Section Number / Clause Title and if possible paragraph number that is being questioned.

All questions, regardless of the method they are communicated (email, regular mail or hand delivered), must be clearly marked as "Solicitation Questions" and state the Solicitation number in the subject line of the email or on the outside of the envelope. If questions are not submitted via email, the submittal envelope **MUST** be clearly marked with Solicitation number and words "SOLICITATION QUESTIONS", or it may be mistaken as an actual bid submittal and not be opened immediately.

All Solicitation questions **MUST** be received by the Purchasing Division by **2:30 P.M. Local Time December 7, 2009**. Any inquiries received after the specified time will be reviewed on an individual basis by the Purchasing staff to determine if a response would be advantageous for the City.

AWARD/REJECTION OF BIDS

The City Council reserves the right, as the interest of the City requires, to reject any or all bids, to waive any informality in bids received, to award a contract by accepting or rejecting any alternate bid(s) (additive or subtractive) and reserves the right to reject the bids(s) of any bidder who has previously failed to perform competently in any contract with the City.

Section 102.5(B) of the MAG Standard Specifications shall be deleted and replaced with the following:

When a contract is funded, either wholly or in part, by federal funds, an award of contract may be made contingent upon the successful bidder obtaining an appropriate license from the State Registrar of Contractors, in accordance with Arizona Revised Statutes 32-1101 through 32-1170.03. The license must be obtained within 60 calendar days following the opening of bid proposals. No adjustment in proposed bid prices or damages for delay will be allowed as a result of any delay caused by the lack of an appropriate license.

Failure to acquire the necessary licensing within the specified period of time shall result in either award to the next lowest responsible bidder, or re-advertisement of the contract, as may be in the best interests of the City of Scottsdale.

Licensing information is available from:

Registrar of Contractors
800 W. Washington
6th Floor
Phoenix, AZ 85007
Phone: (602) 542-1502

EXECUTION OF CONTRACT

The Contractor shall execute the standard Construction Contract with the City of Scottsdale within ten (10) days after the date of the Notice of Award.

INTERPRETATIONS, ADDENDA

THE CITY OF SCOTTSDALE WILL NOT BE RESPONSIBLE FOR BIDDERS ADJUSTING THEIR BIDS BASED ON ORAL INSTRUCTIONS BY ANY MEMBER OF THE CITY STAFF OR BY THE CITY'S CONTRACTED CONSULTANT OR AGENT. BIDS DEVIATING FROM THE SPECIFICATIONS CONTAINED HEREIN BY ANY MEANS OTHER THAN AN AUTHORIZED ADDENDUM BY THE PURCHASING DIVISION WILL BE SUBJECT TO REJECTION.

Should a Bidder find an ambiguity, inconsistency or error in the Plans or Specifications, or should he be in doubt as to their meaning, he shall at once notify the Purchasing Staff and the Contract Administrator, who will prepare a written addendum. The City will not be responsible for oral instructions or information.

All questions shall be submitted as per the Solicitations Questions Clause.

Any Addenda issued by the City during the time of bidding are to be included in the Bid, and will become a part of the Contract. Bidders must acknowledge receipt of all Addenda on the Bid Form in the space provided.

Addenda will be either emailed as an attachment to those who have provided their email address; mailed via US mail or provided by other appropriate means to each vendor, person or firm recorded on the Plan Holders list. The addenda will also be available wherever the Bidding Documents are kept.

CONTRACT COMPLETION TIME

Work shall be completed within one hundred eighty (180) calendar days as specified within the NOTICE TO PROCEED.

PERMITS

The Contractor shall be responsible for the securing of any applicable permits and payment of any applicable taxes and fees associated with this Contract. Fees for City Building Permits and City Encroachment Permits shall be waived by the City. All other fees and licenses are the responsibility of the Contractor.

a. City of Scottsdale Revised Code, Chapter 31, Article 4, Division 3 prescribes the requirements for Building Permits. Permits must be acquired from the Development Services Office.

b. City of Scottsdale Revised Code, Chapter 47, Article 3, Division 2 prescribes the requirements for Encroachment Permits. Permits must be acquired from the Development Services Office.

PERMITS – CONT'D

c. Capital Project Management (CPM) Inspection must be notified prior to the commencement of work, and CPM Inspection will represent the City for the purpose of inspecting the work for conformance to Plans, Specifications and details as well as public safety requirements as authorized by City Code.

d. Development Fees applicable to this contract shall be pre-paid by the City and need not be included in the Contractor's bid.

CONTRACTOR'S LICENSING REQUIREMENTS

Federal requirements set out in 23 CFR 63 5.11 0 (c) state "No contractor shall be required by law, regulation, or practice to obtain a license before a submission of bid or before the bid may be considered for award of a contract." The City will follow the federal requirements for projects developed under Certification Acceptance. Bids will be received, opened and read without regard to licensing requirements. A successful bidder will have a period of 60 days to obtain the appropriate contractor's license required by the State. Upon presenting the required license, the City will forward the bid to City Council for bid award. Should the lowest responsive and responsible bidder not be able to obtain the required license, the project may be awarded to the next lowest responsive and responsible bidder who is able to obtain the required license.

FEDERAL EXCISE TAXES

The City of Scottsdale is exempt from the payment of excise taxes imposed by the Federal Government. Such taxes must not be included in the proposed prices. Federal Excise exemption certificates will be furnished by the Purchasing Program on request.

REQUEST FOR TAXPAYER I.D. NUMBER & CERTIFICATION IRS W-9 FORM

Prior to any Contract Award, the I.R.S. W-9 Form ***must*** be completed and submitted to the City's Purchasing Office.

TAX/LICENSE

The successful Contractor shall secure and maintain, during the life of the Contract, State of Arizona and City of Scottsdale Transaction Privilege (sales) Tax Licenses.

To obtain a State of Arizona Privilege (Sales) Tax License Application, please go to the following website: http://www.revenue.state.az.us/ADOR_Forms/70-79/74-4002_fillable.pdf

To obtain a City of Scottsdale Transaction (Sales) Tax License Application, please go to the following website: http://www.scottsdaleaz.gov/taxes/salestax.asp

RESPONSIBILITY FOR PRIVILEGE (SALES) TAXES

The Contractor shall be responsible for payment of all applicable State of Arizona and City of Scottsdale transaction privilege (sales) taxes due on construction income whether or not such taxes are specifically separated in the bid amount. The taxes are to be reported on either a progressive billing (accrual) basis or cash receipts basis, depending on the method chosen at the time application was made for the Privilege (sales) Tax License.

RESPONSIBILITY FOR PRIVILEGE (SALES) TAXES – CONT'D

City Privilege (sales) tax exemptions/deductions may be applicable to certain projects. We advise you to consider this as you prepare your bid. Please review, in detail, Sections 415, 465, and 110 of the Scottsdale Revised City Code, Appendix C to determine if exemptions/deductions are applicable. For tax guidance, please reference the City Code and other tax resources at the following website:

http://www.scottsdaleaz.gov/taxes/

The State of Arizona has similar exemptions; please reference ARS Title 42 at the following website:

http://www.azleg.state.az.us/ArizonaRevisedStatutes.asp?Title=42

To determine tax treatment of design/build contracts, please contact the Arizona Department of Revenue at 602-255-2060 and the City of Scottsdale Tax & Audit Section at 480-312-2768.

Bids will be evaluated and recommended for award based on the total bid cost including tax.

SUBCONTRACTORS

During the performance of the Contract, the Contractor may engage any additional Subcontractors as may be required for the timely completion of this Contract. The addition of any Subcontractors must first receive the approval of the City. The awarded Contractor may relieve Subcontractors of City Tax liability by providing them with a completed Subcontractor Written Declaration form.

In the event of subcontracting, the sole responsibility for fulfillment of all terms and conditions of this Contract rests with the Contractor. The Contractor assumes responsibility for the proper performance of the work of Subcontractors and any acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between the City and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

SCOPE

The work covered by these specifications consists of furnishing all labor, equipment and materials for construction of a 10-foot wide concrete Multi-Use Pathway (MUP) adjacent to the Crosscut Canal between Thomas Road and Indian School Road in the City of Scottsdale. This project includes a pedestrian bridge over the Crosscut Canal and associated improvements including, but not limited to, landscaping, irrigation, lighting, and retaining walls in accordance with the "INSTRUCTIONS TO BIDDERS", "GENERAL TERMS AND CONDITIONS", "SPECIAL PROVISIONS", and the "PLANS" prepared by **HDR,** consisting of eighty four (**84**) sheets, signed and sealed on **October 13, 2009**.

STANDARD SPECIFICATIONS AND DETAILS

The work embraced herein shall be performed in accordance with the requirements of the following separate documents:

Uniform Standard Specifications for Public Works Construction, Maricopa Association of Governments, Edition of 1998 (with changes effective January 1, 2009),

City of Scottsdale Supplement to MAG Uniform Standard Specifications for Public Works Construction (Effective July 3, 2008),

Manual on Uniform Traffic Control Devices for Streets and Highways, 2003 edition and Arizona Supplement to the 2003 edition, September 1, 2004 (Pub. # 31-010),

Except as otherwise noted, construction of this project and all work done under this Contract shall be in accordance with the included Special Provisions and all applicable UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION sponsored and distributed by Maricopa Association of Governments (MAG) and MAG STANDARD DETAILS including the latest approved revisions and City of Scottsdale supplements thereto in force at the time of bid advertisement, which shall be referred to hereinafter as the "STANDARD SPECIFICATIONS".

In instances where standards, standard specifications, standard details, and/or policies as published by the Maricopa Association of Governments (MAG), City of Scottsdale (COS), Arizona Department of Transportation (ADOT), American National Standards Associations (AWWA), American Association of State Highway and Transportation Officials (AASHTO), or other organizations are used and referred to in these contract documents, the latest revision shall prevail, unless otherwise noted.

Copies of the STANDARD SPECIFICATIONS and revisions may be obtained at the MAG Office at 302 North 1st Ave., Suite 300, Phoenix, Arizona, http://www.mag.maricopa.gov/publications.cms. City of Scottsdale Supplement to MAG Uniform Standard Specifications (latest revision, available at http://www.ScottsdaleAZ.gov/Design/COSMAGSUPP/) and the "GENERAL TERMS AND CONDITIONS" AND "SPECIAL PROVISIONS" of these specifications provide for the supplementation, modification and/or amendments to the STANDARD SPECIFICATIONS.

In the event of any conflict between the "INSTRUCTIONS TO BIDDERS", "GENERAL TERMS AND CONDITIONS" and "SPECIAL PROVISIONS" and the requirements of the "STANDARD SPECIFICATION AND DETAILS" or "PLANS", these "INSTRUCTIONS TO BIDDERS", "GENERAL TERMS AND CONDITIONS" and "SPECIAL PROVISIONS" shall prevail. Federal contract provisions shall prevail over local government requirements.

COMPLIANCE WITH FEDERAL AND STATE LAWS

The City has entered into this Contract with the Contractor relying on his knowledge and expertise to provide the services contracted for. As a part of that reliance, the Contractor represents that he knows and understands the relevant and applicable federal and state laws that apply to the services provided through this Contract, and agrees to comply with these relevant and applicable federal and state laws.

The Contractor understands and acknowledges the applicability to it of the American with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989. The following is only applicable to construction contracts: The Contractor must also comply with A.R.S. §34-301, "Employment of Aliens on Public Works Prohibited", and A.R.S. §34-302, as amended, "Residence Requirements for Employees".

COMPLIANCE WITH FEDERAL AND ARIZONA STATE IMMIGRATION LAWS

Under the provisions of A.R.S. § 41-4401, the Contractor warrants to the City that the Contractor and all its subcontractors will comply with all Federal Immigration laws and regulations that relate to their employees and that the Contractor and all its subcontractors now comply with the E-Verify Program under A.R.S. §23-214(A).

A breach of this warranty by the Contractor or any of its subcontractors will be considered a material breach of this Contract and may subject the Contractor or Subcontractor to penalties up to and including termination of this Contract or any subcontract.

The City retains the legal right to inspect the papers of any employee of the Contractor or any subcontractor who works on this Contract to ensure that the Contractor or any subcontractor is complying with the warranty given above.

The City may conduct random verification of the employment records of the Contractor and any of its subcontractors to ensure compliance with this warranty. The Contractor agrees to indemnify, defend and hold the City harmless for, from and against all losses and liabilities arising from any and all violations of the statutes.

The City will not consider the Contractor or any of its subcontractors in material breach of this Contract if the Contractor and its subcontractors establish that they have complied wit the employment verification provisions prescribed by 8 USCA §1324(a) and (b) of the Federal Immigration and Nationality Act and the E-verify requirements prescribed by A.R.S. §23-214(A). The "E-Verify Program" means the employment verification pilot program as jointly administered by the United States Department of Homeland Security and the Social Security Administration or any of its successor programs.

The provisions of the Article must be included in any contract the Contractor enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a contractor or subcontractor. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property. The Contractor will take appropriate steps to assure that all subcontractors comply with the requirements of the E-Verify Program. The Contractor's failure to assure compliance by all its' subcontractors with the E-Verify Program may be considered a material breach of this Contract by the City.

CONTRACTS WITH SUDAN AND IRAN

In accordance with A.R.S. §35-391.06 and 35-393.06, the contractor certifies that it does not have scrutinized business operations in Sudan or Iran, as defined in A.R.S. §35-391(15) and 35-393(12).

DEFINITIONS

Definitions shall be as stated in Section 101.2 of the MAG STANDARD SPECIFICATIONS with the following additions:

CITY: CITY OF SCOTTSDALE

CONTRACT ADMINISTRATOR: CHRISTOPHER PERKINS

DESIGNER: HDR

OWNER: CITY OF SCOTTSDALE

CONTRACT ADMINISTRATOR AND DUTIES

The Contract Administrator shall be responsible to audit the billings, approve payments, establish delivery schedules, approve addenda, assure Certificates of Insurance are in City's possession and are current and conform to the contract requirements.

CONSTRUCTION PRACTICE

All construction practices and procedures shall conform to Section 107 of the Contract Works Hours and Safety Standards Act, (US Stat. 96, 40 USC 327) the latest revisions shall prevail.

INSURANCE

This solicitation/contract contains two samples of Certificates of Insurance, the Standard Acord Certificate and the Certificate developed by the City of Scottsdale.

The City Certificate is preferred, however, the Acord Certificate is acceptable provided it is identical to the sample attached and contains the additional language and deleted language as reflected on the sample.

Failure to provide a Certificate of Insurance with the appropriate verbiage as indicated on the attached samples, will result in rejection of your certificate and delay in contract execution.

Additionally Certificates of Insurance submitted without referencing a Bid Number will be subject to rejection and returned or discarded.

INSURANCE CONT'D

Indemnification

To the fullest extent permitted by law, Contractor, its successors, assigns and guarantors, shall defend, indemnify and hold harmless the City of Scottsdale, its agents, representatives, officers, directors, officials and employees and SRP from and against all allegations, demands, proceedings, suits, actions, claims, damages, losses, expenses, including but not limited to, attorney fees, court costs, and the cost of appellate proceedings, and all claim adjusting and handling expense, related to, arising from or out of, or resulting from any negligent or willful actions, acts, errors, mistakes or omissions but only to the extent caused by Contractor relating to work or services performed under this Contract, including but not limited to, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable and any injury or damages claimed by any of Contractor's and Subcontractor's employees.

Insurance provisions set forth in this agreement are separate and independent from the indemnity provisions of this paragraph and shall not be construed in any way to limit the scope and magnitude of the indemnity provisions. The indemnity provisions of this paragraph shall not be construed in any way to limit the scope and magnitude and applicability of the insurance provisions.

Insurance Representations and Requirements

General
Contractor agrees to comply with all applicable City ordinances and state and federal laws and regulations.

Without limiting any obligations or liabilities of Contractor, Contractor shall purchase and maintain, at its own expense, hereinafter stipulated minimum insurance with insurance companies duly licensed by the State of Arizona (admitted insurer) with an AM Best, Inc. rating of B ++ 6 or above or an equivalent qualified unlicensed insurer by the State of Arizona (non-admitted insurer) with policies and forms satisfactory to City of Scottsdale. Failure to maintain insurance as specified may result in termination of this Contract at City of Scottsdale's option.

No Representation of Coverage Adequacy
By requiring insurance herein, City of Scottsdale does not represent that coverage and limits will be adequate to protect Contractor. City of Scottsdale reserves the right to review any and all of the insurance policies and/or endorsements cited in this Contract but has no obligation to do so.

Failure to demand such evidence of full compliance with the insurance requirements set forth in this agreement or failure to identify any insurance deficiency shall not relieve Contractor from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Contract.

Coverage Term
All insurance required herein shall be maintained in full force and effect until all work or services required to be performed under the terms of subject contract are satisfactorily performed, completed and formally accepted by the City of Scottsdale, unless specified otherwise in this Contract.

Insurance Representations and Requirements Cont'd

Claims Made
In the event any insurance policies required by this Contract are written on a "claims made" basis, coverage shall extend, either by keeping coverage in force or purchasing an extended reporting option, for three (3) years past completion and acceptance of the work or services evidenced by submission of annual Certificates of Insurance citing applicable coverage is in force and contains the provisions as required herein for the three year period.

Policy Deductibles and or Self Insured Retentions
The policies set forth in these requirements may provide coverage which contain deductibles or self insured retention amounts. Such deductibles or self insured retention shall not be applicable with respect to the policy limits provided to City of Scottsdale. Contractor shall be solely responsible for any such deductible or self insured retention amount. City of Scottsdale, at its option, may require Contractor to secure payment of such deductible or self insured retention by a surety bond or irrevocable and unconditional Letter of Credit.

Use of Subcontractors
If any work under this agreement is subcontracted in any way, Contractor shall execute written agreement with Subcontractor containing the same Indemnification Clause and Insurance Requirements set forth herein protecting City of Scottsdale and Contractor. Contractor shall be responsible for executing the agreement with Subcontractor and obtaining Certificates of Insurance verifying the insurance requirements.

Evidence of Insurance
Prior to commencing any work or services under this Contract, Contractor shall furnish City of Scottsdale with Certificate(s) of Insurance, or formal endorsements as required by this Contract, issued by Contractor's insurer(s) as evidence that policies are placed with acceptable insurers as specified herein and provide the required coverage, conditions, and limits of coverage and that such coverage and provisions are in full force and effect. If a Certificate of Insurance is submitted as verification of coverage, City of Scottsdale shall reasonably rely upon the Certificate of Insurance as evidence of coverage but such acceptance and reliance shall not waive or alter in any way the insurance requirements or obligations of this agreement.

If any of the above cited policies expire during the life of this Contract, it shall be Contractor's responsibility to forward renewal Certificates within ten (10) days after the renewal date containing all the aforementioned insurance provisions. Certificates shall specifically cite the following provisions:

1. City of Scottsdale, its agents, representatives, officers, directors, officials and employees, and SRP shall be named an Additional Insured under the following policies:
   a) Commercial General Liability
   b) Auto Liability
   c) Excess Liability - Follow Form to underlying insurance as required.
2. Contractor's insurance shall be primary insurance as respects performance of subject contract.
3. All policies, except Professional Liability insurance, waive rights of recovery (subrogation) against City of Scottsdale, its agents, representatives, officers, directors, officials and employees for any claims arising out of work or services performed by Contractor under this Contract.

Insurance Representations and Requirements Cont'd

Evidence of Insurance – Cont'd

4. Certificate shall cite 30 day advance notice of cancellation provision. If ACORD Certificate of Insurance form is used, the phrases in the cancellation provision "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" shall be deleted. Certificate forms other than ACORD form shall have similar restrictive language deleted.

Required Coverage

Commercial General Liability

Contractor shall maintain "occurrence" form Commercial General Liability insurance with a limit of not less than $1,000,000 for each occurrence, $2,000,000 Products and Completed Operations Annual Aggregate, and a $2,000,000 General Aggregate Limit. The policy shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury.

Contractor, its successors and/or assigns, is required to maintain Commercial General Liability insurance as specified hereunder for a minimum period of three (3) years following completion and acceptance of subject work. Contractor shall submit Certificate of Insurance evidencing such Commercial General Liability insurance during said three year period containing all the insurance requirements set forth herein including naming the City of Scottsdale, its agents, representatives, officers, directors, officials and employees, and SRP as Additional Insured as required. If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be 'follow form" equal or broader in coverage scope then underlying insurance.

Vehicle Liability

Contractor shall maintain Business Automobile Liability insurance with a limit of $1,000,000 each accident on Contractor's owned, hired, and non-owned vehicles assigned to or used in the performance of the Contractor's work or services under this Contract. If any hazardous material, as defined by any local, state or federal authority, is the subject, or transported, in the performance of this contract, an MCS 90 endorsement is required providing $5,000,000 per occurrence limits of liability for bodily injury and property damage. If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be 'follow form" equal or broader in coverage scope then underlying insurance.

Worker's Compensation Insurance

Contractor shall maintain Workers Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Contractor's employees engaged in the performance of work or services under this Contract and shall also maintain Employers Liability Insurance of not less than $100,000 for each accident, $100,000 disease for each employee and $500,000 disease policy limit.

AIR AND NOISE POLLUTION

Prevention to Air and Noise Pollution
(104 APA – Air& Noise, 02/26/99)

Section 104.1.1 of the MAG Standard Specifications is modified to add:

In the event that the Governor declares an air pollution emergency, pursuant to ARS § 49-465.B., which restricts work schedules for all employees of the state and its political subdivisions, the Engineer will direct the contractor suspend all work activities until further notice.

The contractor shall discontinue all current work activities as soon as possible, but not later than four hours after notification by the Engineer. The contractor will be compensated for labor costs incurred through the end of the work shift in which the notification occurs. No payment adjustments will be made for equipment or overhead costs resulting from the suspension of work. In the event that any local air quality authority declares an air pollution advisory, the cooperation of the contractor is requested in complying with the actions recommended by the local authority to the maximum extent possible.

Maintenance of Traffic

Section 104.1.2 of the MAG Standard Specifications is modified to add:

In order to eliminate the possibility of causing or exacerbating air quality violations resulting from construction activities, any traffic control plans which include temporary traffic detours involving local adjacent streets or alternate routes must be approved by the Engineer.

Cleanup and Dust Control
(104DUST, 11/01/95)

Section 104.1.3 of the MAG Standard Specifications is modified to add:

For work performed within Maricopa County, the contractor will be required to prepare a comprehensive fugitive dust control plan, in accordance with the guidelines established in Rule 310 of Maricopa County Regulation III, Control of Air Contaminants. The contractor may contact Maricopa County, Division of Air Pollution Control, to purchase a copy of the guidelines. The contractor shall complete and submit the control plan with the permit application, and obtain approval prior to construction or any other activities which may produce dust pollutants.

Some of the measures which the contractor may use to control or minimize fugitive dust include: increased use of water or chemical dust suppressants, cease work temporarily during high winds, reducing vehicle speeds and number of trips, maintaining freeboard of three inches or more in hauling, and covering or stabilizing stockpiles. The contractor shall be required to cover haul trucks with tarps or other suitable enclosures.

AIR AND NOISE POLLUTION – CONT'D

Clean-Up and Dust Control – Cont'd

Section 104.1.3 of the MAG Standard Specifications is modified to add – Cont'd

No separate payment will be made for preparation and implementation of the fugitive dust control plan, the costs being considered as included in the price of contract items.

TRAFFIC CONTROL

a. Complete street closures will not be permitted unless specified in the Special Provisions Section of this bid document.

b. Adequate barricades and lighted warning signs shall be installed and maintained by the Contractor throughout the duration of the project. All traffic control shall be in accordance with the City of Phoenix Traffic Control Manual unless otherwise specified in the Special Provisions section of this bid document.

c. The City Traffic Engineering Manager shall stipulate the traffic restrictions and/or minimum requirements throughout the construction period.

d. The Contractor shall submit a construction schedule and traffic supplement for "Street Barricading and Channelization" to the City Traffic Engineering Manager for approval and/or modification before construction is initiated.

INSPECTION

a. Inspectors may be stationed on the work to report to the Contract Administrator or his Designee as to the progress of the work, the manner in which it is being performed, and also to report whenever it appears that material furnished or work performed by the Contractor fails to fulfill the requirements of the specifications and contract. The Inspector may direct the attention of the Contractor to such failure or infringement but such inspection shall not relieve the Contractor from any obligation to furnish acceptable materials or to provide completed construction that is satisfactory in every particular.

b. In case of any dispute arising between the Inspector and the Contractor as to material furnished or the manner of performing the work, the Inspector shall have the authority to reject materials or suspend the work until the question and issue can be referred to and decided by the City. Inspectors are not authorized to revoke, alter, enlarge, relax, or release any requirements of the specifications. Inspectors shall in no case act as foremen or perform other duties for the Contractor or interfere with the management of the work by the Contractor.

c. Inspection or supervision by the Contract Administrator or Designee shall not be considered as direct control of the individual workman and his work. The direct control shall be solely the responsibility of the Contractor.

LIQUIDATED DAMAGES

The Contractor shall pay as liquidated damages the amounts specified in Section 108.9 of the M.A.G. Standard Specifications.

HINDRANCES AND DELAYS

In the event that the Contractor sustains damages as a result of expenses incurred by a delay for which the City is responsible, the Contractor and the City shall negotiate to determine the amount of such damages. This provision is made pursuant to Arizona Revised Statutes Section 34-221 and is effective only if the delay caused by the City is unreasonable under the circumstances and was not within the contemplation of the parties. This provision shall not be construed to void any provision of this contract pertaining to notice of delays, arbitration or other settlement provisions applicable to disputes, or provisions relating to liquidated damages.

DELAY AND DIFFERING SITE CONDITIONS

"Delay" means an unanticipated event or interference with the progress of a critical path work activity being performed at the time that causes the completion date of the project to be extended. Delays may be caused by the City, the Contractor, third parties or Force Majeure events. Delays may be excusable, compensable, non-compensable or concurrent.

"Delay, Compensable" means delay that results from the City's actions or inactions that entitle the Contractor to both a time extension and delay damages.

"Delay, Concurrent" means two (2) or more delays, within the same timeframe, both of which would independently impact the project's critical path. If one delay is caused by the City and the other by the Contractor, the Contractor will generally be entitled to an excusable, non-compensable time extension, to the degree the delays may "overlap."

"Delay, Excusable" means an unforeseeable delay caused by an event beyond the control and without the fault or negligence of the Contractor (including its suppliers and subcontractors). Excusable delays may be compensable or non-compensable, depending upon whether the terms of the contract or the law allows recovery of delay costs. Unless otherwise shown, it will generally be presumed that these delays are non-compensable.

"Delay, Non-Excusable" means a delay within the control of the Contractor, its suppliers and subcontractors, or a delay resulting from a risk taken by the Contractor under the terms of the Contract. The Contractor will not be due any time extension or delay damages, and may be responsible for paying to the City, actual or liquidated damages for the delay.

"Differing Site Conditions" means concealed or latent physical conditions or subsurface conditions at the Site that, (i) materially differ from the conditions indicated in the Contract Documents or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work.

LOSS AND DAMAGES

All loss or damage arising out of the nature of the work to be done or from the action of the elements, or from any unforeseen circumstances, in the prosecution of the same, or from any unusual obstructions or difficulties which may be encountered in and/or during the prosecution of the work, or from any casualty whatsoever of every description, shall be sustained and borne by the Contractor at his own cost and expense.

PROTECTION OF FINISHED OR PARTIALLY FINISHED WORK

The Contractor shall properly guard and protect all finished or partially finished work, and shall be responsible for the same until the entire contract is completed and accepted by the City.

Any payment for completed portions of the work shall not release the Contractor from such responsibility; however, Contractor shall turn over the entire work in full accordance with these specifications before final settlement shall be made.

In case of suspension of the work for any cause whatever, the Contractor shall be responsible for the project and shall take such precautions as may be necessary to prevent damage to the project and shall erect any necessary temporary structures, signs, or other facilities at no cost to the City.

CLEAN-UP

After all work under the contract is completed, the Contractor shall remove all loose concrete, lumber, wire, reinforcing, debris and other materials not incorporated in the work from the site of the work.

FINAL ACCEPTANCE

"Final Acceptance" shall mean a written final acceptance of the work by the Contract Administrator in the form of the Notice of Final Acceptance. The Contract Administrator or his Designee shall make the final acceptance promptly after all work under the contract has been completed in accordance with the contract documents and after final inspection.

RIGHTS-OF-WAY

The Contractor, at his own expense, is responsible for land-use agreements for construction purposes, storage and maintenance purposes, which are required in addition to existing easements and/or rights of way secured by the City as indicated upon the plans.

DUST PREVENTION

The Contractor shall take whatever steps, procedures or means required to prevent abnormal dust conditions due to his construction operations in connection with this contract. The dust control measures shall be maintained at all times during construction of the project, to the satisfaction of the City, in accordance with the requirements of the Maricopa County Health Department Air Pollution Control Regulations and City of Scottsdale Supplement to M.A.G. Standard Specifications. This is not a pay item. The provisions of M.A.G. Subsection 104.2.5 shall apply.

EXISTING UTILITIES TO BE RELOCATED

If any utility is relocated or rebuilt to accommodate the Contractor's construction methods and available equipment, the expense shall be borne by the Contractor.

DAMAGED WATER, SEWER, AND OTHER UTILITIES

Any utilities damaged during construction shall be replaced at the Contractor's expense as per the requirements of the M.A.G. Standard Specifications.

EQUAL EMPLOYMENT OPPORTUNITY

The Contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractors to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)

Delete Standard Specification Section 107.2.1 “NPDES Permit” in the COS Supplement Specifications for M.A.G. Uniform Standard Specifications for Public Works Construction, latest revision in its entirety and replace with the following:

This project is subject to the Arizona Pollutant Discharge Elimination System (AZPDES) storm water requirements under the Arizona Department of Environmental Quality’s (ADEQ) General Permit for Discharge from Construction Activities to Waters of the United States (Permit). Under provisions of the Permit, the contractor shall be designated as the site operator who has day-to-day operational control of those activities at the project which are necessary to ensure compliance with the storm water pollution prevention plan or other Permit conditions. The Contractor shall be responsible for providing necessary materials and for taking appropriate measures to minimize pollutants in storm water runoff from the project.

The City of Scottsdale (City) is also identified as an operator for this project since the City has operational control over project plans and specifications (including the ability to make modifications). However, it shall be the responsibility of the Contractor to select, implement and maintain Best Management Practices (BMP) (including sediment and erosion control measures) to prevent potential pollutions from entering storm water. The project plans will specify the long term post construction storm water management measures, as required, that are to be used (i.e. retention basins, landscaping, etc.)

The Contractor shall be responsible for preparing the Storm Water Pollution Prevention Plan (SWPPP) for the project. This plan shall incorporate the post construction storm water management measures prescribed by the city and meet all of the requirements described in the Permit (available by calling ADEQ at (602) 771-4449 or through the internet at www.adeq.state.az.us/environ/water/permits/stormwater.html.)

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES) – CONT'D

The Flood Control District of Maricopa County has prepared a manual entitled "Drainage Design Manual for Maricopa County Arizona, Volume III, Erosion Control" to assist in the preparation of the SWPPP. It is available at the Flood Control District Office at 2801 West Durango Street, Phoenix, Arizona. The EPA has published a similar guide entitled *Storm Water Management for Construction Activities (EPA 832-R-92-005).* It is available from the National Center for Environmental Publications Information at 1-800-490-9198.

The SWPPP shall be submitted to the City of Scottsdale, Engineering Construction for approval at least 14 calendar days prior to issuance of the notice to proceed. The SWPPP will be reviewed by the City only to ensure that it includes the information required by the Permit. Development and compliance with other components of the SWPPP are solely the contractor's responsibility. The City's approval of the SWPPPP applies only to its contents and is neither comprehensive nor does it make the City responsible for the contractor's noncompliance. Upon approval, the City will partially prepare a Notice of Intent (NOI) and give it to the contractor. The Contractor shall complete, certify and submit the NOI to the ADEQ with a copy to the City. The City will file a separate NOI with ADEQ. In addition, the Contractor shall submit a written certification to the Construction Coordinator that the NOI has been sent to the ADEQ.

This certification shall be received no later than three (3) working days prior to the Notice to Proceed. The ADEQ address is:

Surface Water Permits Unit (M05415B-3)
ADEQ – Water Permits Section
1110 W. Washington Street
Phoenix, AZ 85007

The lump sum bid item for "AZPDES Permit Compliance" listed in the bid proposal shall include all material, labor, and other incidental costs related to; (1) Preparing, updating, and changing the SWPPP; (2) Installation and maintenance of all structural and non-structural BMPs either identified in the SWPPP or specified by the City in the bid document; (3) all clean-up and disposal costs associated with clean-up and repair following storm events and other runoff or releases on the project; (4) Implementation and maintenance of other activities identified in the SWPPP (i.e. inspections, record keeping); (5) Preparation of the Notice of Intent and Notice of Termination. No additional payments will be made for these items.

It is the contractor's responsibility to perform inspections of all storm water pollution control devices on the project in accordance with Permit requirements. The Contractor is also responsible for maintaining those devices in proper working order, including cleaning and/or repair. The Maricopa County Flood Control District provides access to real time rainfall information via telephone (602-506-8701) and the internet (http://156.42.96.70/alert/alert.htm).

All SWPPP reports required under this contract shall be made available to the public in accordance with the requirements of Section 308 (b) of the Clean Water Act. The storm water regulations require that the records be maintained at the construction site or that notice be provided indication where the records are kept.

No condition of the AZPDES Permit shall release the Contractor from any responsibilities or requirements under other environmental statutes or regulations.

ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES) – CONT'D

Within 30 calendar days after completion of all work (including final stabilization when applicable) form to the ADEQ with a copy to the City, thereby terminating all AZPDES Permit coverage for the project. The COS will be filing its own NOT with ADEQ and will not be responsible for filing on behalf of the contractor.

EXISTING TRAFFIC AND STREET SIGNS AND TRAFFIC SIGNAL EQUIPMENT

The Contractor shall use due care when excavating at or near intersections where traffic signal underground conduit is located. The Contractor shall notify the Transportation Maintenance Traffic Signal Division (480-312-5620) 48 hours in advance of any work at such intersections.

The Contractor shall be responsible for the installation and maintenance of temporary overhead traffic signal cable as specified by the Traffic Engineering Director when underground conduit is to be severed by excavations at the intersection. The Transportation Maintenance Manager shall have all underground traffic conduit located and shall provide the necessary City Technicians to assist the Contractor in identifying wiring phases and direction of conduit runs upon 24 hours notice from the Contractor and at least one day prior to the Contractor's scheduled wiring and installation of temporary cables. The Contractor shall be responsible for the wiring and connection of all temporary cable within pull boxes and terminal compartments.

The Transportation Maintenance Manager shall provide a City technician to assist the Contractor with connecting field wiring within the traffic signal control cabinet. The Contractor shall provide, at his expense, an off duty uniformed Police Officer to direct traffic while the traffic signal is turned off and the wiring is transferred. The Contractor shall be responsible as specified by the Traffic Engineering Manager for the repair and restoration of all traffic signal overhead and underground items that have been damaged or modified.

The Contractor shall be responsible for the maintenance and repair of any temporary field wiring of signal equipment. The Contractor shall ensure that signal faces are re-aligned to provide proper visibility when traffic lanes are re-routed.

The City does not permit the splicing of Magnetic Detector Loops.

DUMPING AND DISPOSAL OF WASTE

The Contractor is responsible for the cost to dispose of all waste products including excess earth material which will not be incorporated into the work under this contract. The waste product referred to herein shall become the property of the Contractor.

The Contractor shall provide for the disposal at a legal off-site location for all waste products, debris, etc., and shall make necessary arrangements for such disposal. Any disposal/dumping of waste products or unused materials shall conform to applicable Federal, State and Local Regulations.

DUMPING AND DISPOSAL OF WASTE – CONT'D

Section 104.1.3 of the MAG Standard Specifications is modified to add:

Burning of trash, debris, plant material, wood, or any other waste materials will not be allowed. The Contractor shall be responsible for the preservation of all public and private property and shall protect carefully from disturbance or damage all land monuments and property marks until the Engineer has witnessed or otherwise referenced their location and shall not move them until directed.

The Contractor shall be responsible for all damage or injury to property of any character, during the prosecution of the work, resulting from any act, omission, neglect, or misconduct in his manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project shall have been completed and accepted.

When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor, he shall restore, at no cost to the Contracting Agency, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner. Such damage will include but not be limited to landscaped areas. The contractor shall re-grade the disturbed area as directed and restore the surface material to match existing in type and quality.

When construction is within temporary construction easements, the Contractor shall restore all disturbed areas to a condition equal to or better than the existing improvements. Such restoration will include but not be limited to asphalt, walkways, fences, lights, sprinklers, landscaping, etc. In the case of landscaping, the Contractor may remove and store sod and plant material. If, in the determination of the Engineer, or designee, the sod and/or plant material did not survive the transplanting in good condition, the Contractor shall replace the sod and/or plant material to match in type and quality. Also, the Contractor may salvage any sprinkler system materials, lighting materials, etc. In the event that it is not feasible to reinstall the salvaged material, new material shall be installed.

The Contractor shall not dump spoil or waste material on private property without first obtaining from the owner written permission for such dumping. All such dumping shall be in strict conformance with the Grading and Drainage Ordinance of the Contracting Agency.

Access to private property shall be maintained to keep inconvenience to the property owner to a minimum. Prior to any construction in front of driveways the Contractor shall notify the property owner 24 hours in advance. Inconvenience caused by construction across driveways and sidewalks shall be kept to a minimum by restoring the serviceability as soon as possible. If it is necessary to leave open excavation for a long period of time, the Contractor shall provide structurally adequate steel plates to bridge the excavation.

SUPERVISION BY CONTRACTOR

The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site.

The representative shall have full authority to act on behalf of the CONTRACTOR and all communications given to the representative shall be as binding as if given to the CONTRACTOR. The representative shall be present on the site at all times as required to perform adequate supervision and coordination of the work. Where appropriate all Provisions of M.A.G., Section 105.5, will be applicable.

CHANGES IN CONTRACT PRICE

The CONTRACT PRICE may be changed only by a written CHANGE ORDER issued by the City. The value of any work covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

a. Unit prices previously approved.
b. An agreed lump sum.
c. The Provision of M.A.G. 109.5.

CHANGES IN THE WORK

The City may at any time, as the need arises, order changes within the scope of the WORK without invalidating the CONTRACT. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by written CHANGE ORDER.

The City will execute a formal CHANGE ORDER based on detailed written quotations from the Contractor for work related changes and/or a time of completion variance. All CHANGE ORDERS are subject to approval by the City.

The City, also, may at any time, by issuing a written FIELD ORDER, make changes in the details of the WORK not affecting contract price or time. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered unless the CONTRACTOR believes that such written FIELD ORDER entitles him to a change in CONTRACT PRICE or TIME, or both, in which event he shall give the OWNER WRITTEN NOTICE thereof within one (1) day after the receipt of the Field Order, and the CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER.

If the Contractor performs work authorized under a Field Order and subsequently requests a Change Order for that work, the City shall not be obligated to issue a Change Order.

CONSTRUCTION STAKES

Survey stakes and marks required for the completion of the construction shown on the plans and described in the specifications will be furnished by the Contractor.

WORKMANSHIP

Where not more specifically described, workmanship shall conform to all of the methods and operations of best standards and accepted practices of the trade or trades involved and shall include all items of fabrication, construction or installation regularly furnished or required for completion.

All work shall be executed by tradesmen skilled in their respective lines of work.

When completed, all work shall have been durably and substantially built and shall present a neat, workmanlike appearance.

SOURCE OF MATERIALS

No material source has been designated by the City for use on this project.

MAG Specification, Section 106 shall apply as will ADOT Standard Specifications 1982, Section 106.01, .03, & .11 which outline controls and Section 1001-1, -2, & -4 concerning approval of Contractor-Furnished Source and supplemental agreements in regards to environmental analysis and the liability for materials testing costs.

Contractor furnished material sources situated in the 100-year flood plain of any stream or watercourse, and located within 1.0 mile upstream and 2.0 miles downstream of any highway structure or surfaced roadway crossing, shall not be allowed.

A contractor-furnished source shall be defined as a material source which is neither an A.D.O.T.-furnished source nor a commercial source, as herein defined.

A commercial source shall be defined as a material source in which the owner or producer has been for at least one year regularly engaged during regular business hours on a regular basis in the processing and selling of sand, rock, ready mixed Portland cement concrete, asphaltic concrete and other similar products normally produced and sold to all parties. The company shall have an Arizona retail sales tax license.

The location of any new material source or existing non-commercial material source proposed for use on this project shall be reviewed by the appropriate agency having flood plain management jurisdiction over the area of proposed source location. Contractor shall obtain a letter from the agency addressed to the Contract Administrator certifying that the proposed source location conforms to the conditions herein and such applicable Standard Specifications as referenced.

LOCAL CONDITIONS, RULES AND REGULATIONS

The Bidder shall familiarize himself with the nature and extent of the Contract documents, work to be performed, all local conditions, and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the work.

METHOD OF MEASUREMENT AND PAYMENT FOR PAY ITEMS

Except as noted in the Special Provisions, measurements and payment for all bid items in the BID FORM shall be as described in the MAG STANDARD SPECIFICATIONS, subject to the following:

a. Payment for each item shall constitute payment in full for the furnishing of all excavation, back filling, materials, equipment, appurtenances, labor, plant and tools necessary to provide a completely finished, and serviceable project, as shown by the Plans and described in the Specifications. Each item shall be complete with all necessary connections, testing, and related work accomplished to provide for the satisfactory use and/or operation of the total project.

b. No additional payments will be made for incidental work related to any items unless specifically noted and called for in the bid. Payment will be made at the unit price or lump sum price bid in the bid. In the event of a discrepancy between the unit price and the extension, the unit price shall govern.

c. Measurements of the completed work will be made in place, with no allowance for waste, and as may be more particularly described in the description of the various items of work. Ten percent (10%) of the amount of each progress pay estimate shall be retained or securities shall be posted in accordance with ARS 34-221 until final acceptance by the City of all work.

d. Section 109 of the MAG Standard Specifications is revised to add:

The contractor shall submit payrolls electronically through the internet to the Arizona Department of Transportations' web-based certified payroll tracking system. This requirement shall also apply to every lower-tier subcontractor that is required to provide certified payroll reports.

If, by the 15th of the month, the contractor has not submitted its payrolls for all work performed during the preceding month, the Engineer will provide written notification of the discrepancies to the contractor.

For each payroll document that the contractor fails to submit within 10 days after the written notification, the City will retain $2,500.00 from the progress payment for the current month.

The contractor shall submit each complete and correct payroll within 90 days of the date of written notification.

If the payroll is complete and correct within the 90-day time frame, the City will release the $2,500.00 on the next monthly estimate.

For each payroll that is not acceptable until after the 90-day time frame, the City will only release $2,000.00 of the $2,500.00 retained. The City will retain $500.00 as liquidated damages.

These liquidated damages shall be in addition to all other retention or liquidated damages provided for elsewhere in the contract.

See Appendix D for additional information regarding electronic payroll submission.

METHOD OF MEASUREMENT AND PAYMENT FOR PAY ITEMS – CONT'D

e. Section 109.07 of the MAG Standard Specification, which allows for partial payment for material on hand is hereby deleted.

NATIVE PLANTS

The Contractor shall take whatever steps, procedures or means necessary to remove, move, displace and save all native plants within the contract work area in accordance with the City of Scottsdale's Ordinance No. 1438, Native Plants, and all applicable state and county statutes, ordinances, codes and other policy requirements and recognized methods, procedures, techniques and equipment for protection, salvage, and handling of all plants to be moved from the construction area. This is not a pay item unless specified upon the Schedule of Bid Items.

RECORDS AND AUDIT RIGHTS

Contractor's and Subcontractor's books, records, correspondence, accounting procedures and practices, and any other supporting evidence relating to this Contract (all the foregoing hereinafter referred to as "Records") shall be open to inspection and subject to audit and/or reproduction during normal working hours by the City of Scottsdale, or its authorized representative, to the extent necessary to adequately permit evaluation and verification of any invoices, payments or claims based on Contractor's or Subcontractor's actual costs (including direct and indirect costs and overhead allocations) incurred, or units expended directly in the performance of work under this Contract. For the purpose of evaluating or verifying such actual or claimed costs or units expended, the City of Scottsdale or its authorized representative shall have access to said Records from the effective date of this Contract for the duration of the work and until three (3) years after the date of final payment by the City of Scottsdale to Contractor pursuant to this Contract.

The City of Scottsdale or its authorized representative shall have access, during normal working hours, to all necessary Contractor and Subcontractor facilities, and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with the provisions of this Article. The City of Scottsdale shall give Contractor or Subcontractor reasonable advance notice of intended audits.

Contractor shall require Subcontractors to comply with the provisions of this Article by insertion of the requirements hereof in any subcontract pursuant to this Contract.

GUARANTEE- WARRANTY

In the M.A.G. Uniform Standard Specifications for Public Works Construction, latest revision, delete Standard Specification Section "108.8 Guarantee and Warrantee Provision" in its entirety and replace with the following:

> The Contractor shall obtain such manufacturer's or producer's warranties or guarantees on all items, materials, electrical or mechanical equipment consistent with those provided as customary trade practice. The form in which such warranties or guaranties are delivered to the Contractor shall include the provision that they are subject to transfer to the City, and shall be accompanied by proper validation of such fact. Transfer of warranties or guaranties shall occur at the time of final acceptance of the work or equipment by the City.

GUARANTEE – WARRANTY – CONT'D

In addition, a Contractor warranty or guaranty shall be furnished providing for satisfactory in service operation of the mechanical and electrical equipment and related components for a period of six months following project acceptance.

Should any defect develop during this six month period, the malfunction or defect shall be corrected by and at the expense of the Contractor, including all labor, material and associated costs.

CONFLICT OF INTEREST

The City may cancel any contract or agreement, without penalty or obligation, if any person significantly involved in initiating, negotiating, securing, drafting or creating the contract on behalf of the City's departments or agencies is, at any time while the contract or any extension of the contract is in effect, an employee of any other party of the contract with respect to the subject matter of the contract. The cancellation shall be effective when written notice from the City is received by all parties to the contract, unless the notice specifies a later time (A.R.S. 38-511).

PATENTS

The Contractor agrees upon receipt of notification to promptly assume full responsibility for the defense of any suit or proceeding which is, has been, or may be brought against the City of Scottsdale and its agents or vendors for alleged patent and/or copyright infringement, as well as for the alleged unfair competition resulting from similarity in design, trademark or appearance of goods by reason of the use or sale of any goods furnished under this contract and the Contractor further agrees to indemnify the City against any and all expenses, losses, royalties, profits and damages including court costs and attorney's fees resulting from the bringing of such suit or proceedings including any settlement or decree of judgment entered therein. The City may be represented by and actively participate through its own counsel in any such suit or proceedings if it so desires.

ENDANGERED HARDWOODS

Any construction, building addition or alteration project which is financed by monies of this state or its political subdivisions shall not use endangered tropical hardwood unless an exemption is granted by the Director of the State of Arizona, Department of Administration. The Director shall only grant an exemption if the use of endangered tropical hardwood is deemed necessary for historical restoration or to repair existing facilities and the use of any substitute material is not practical. Any lease-purchase agreement entered into by this state or its political subdivisions for construction shall specify that no endangered tropical hardwood may be used in the construction unless an exemption is granted by the Director. As used in this subsection, "endangered tropical hardwood" includes ebony, lauan, mahogany or teak hardwood.

FINAL PAYMENT

Final payment shall be made per statutory requirements after approval of the Contractor's Notice of Final Pay Estimate by the Contract Administrator and receipt of the Contractor's Affidavit Regarding Settlement of Claims. The above documents shall be submitted on forms provided herein.

PLANS AND SPECIFICATIONS TO SUCCESSFUL BIDDER

The successful bidder may obtain five (5) sets of Plans and Specifications for this project from the City, or its designee, at no cost. Additional sets will be furnished at cost.

CONTRACTOR'S DAILY LOG

On a daily basis, the Contractor shall prepare a Contractor's Daily Report. The City Public Works Inspector will provide a sample report format for the Contractor. The report shall detail the activities that took place during the course of the day, all equipment utilized and the number of hours operated and all personnel on the site inclusive of subcontractors.

The Daily Reports shall be submitted on a daily basis, unless otherwise arranged, to the City Public Works Inspector. The Daily Reports shall also be made available to the Contract Administrator upon request.

Failure to provide Daily Reports as arranged or requested above will result in the retention of monthly progress payments until the Reports are brought up to date.

MARSHALLING YARD

Bidders are advised to contact the City of Scottsdale Development Services to determine the requirements for obtaining a permit for marshalling areas they propose to use.

Marshalling areas shall be fenced. The Contractor shall obtain written approval from the property owner for marshalling area use. This approval shall contain any requirements which are a condition of this approval. Marshalling yard requirements according to M.A.G. Subsection 107.6.1 and City of Scottsdale Supplemental Specifications shall apply.

SUCCESSORS AND ASSIGNS

This Contract shall extend to and be binding upon Contractor, its successors and assigns, including any individual, company, partnership or other entity with or into which Contractor shall merge, consolidate or be liquidated, or any person, corporation, partnership or other entity to which Contractor shall sell its assets.

No right or interest covered by this Contract shall be assigned in whole or in party without the prior written consent of the City.

CONTRACTOR SAFETY PROGRAM

The industrial environment in which the Contractor for the City of Scottsdale operates may on occasion present a potential safety and health hazard to any who may be on the job site. All work shall be performed in compliance with all applicable federal, state and local laws, ordinances, statutes, rules and regulations including ADOSH policies and procedures. The Contractor will be required to attend a City safety briefing session at the pre-construction meeting. The session shall be attended by the Contract Administrator, the designated Risk Management staff, and a Contractor's representative.

Contractor shall provide a safe jobsite and work environment for the safety and health of employees and members of the general public and shall comply with all legal requirements, including but not limited to the following:

Occupational Safety and Health Act (OSHA) Electrical Safe Work Practices Standards
OSHA Personal Protective Equipment Standards
NFPA 70E Standard for Electrical Safety in the Workplace
OSHA Fall Protection Standards
OSHA Confined Space Entry
All other applicable requirements of OSHA and local codes and agencies having jurisdiction.

Contractors that violate aforementioned rules and regulations may be subject to job shutdown and or removal from City facilities.

City Safety Rules and Expectations
Risk Management Division makes available a packet which contains the City's OSHA compliance guidelines, emergency evacuation, the City's safety and health plan, and other safety information.

Contractor Safety Tailgate Meetings
Contractor shall conduct tailgate safety meetings regularly to ensure that safety on the job is given priority.

Accident/Injury Procedure
Contractor shall contact the Contract Administrator and the Risk Management Division within 24 hours of the occurrence of an accident or injury arising out of the Contractor's work under this contract.

Unsafe Acts
Contractor employees are encouraged to abate or remedy any unsafe act or condition which may arise in the course of Contractor's work under this contract.

Safety Audits
The City reserves the right to conduct safety audits at the job site and stop unsafe acts at any time. In addition, the City shall be notified should any OSHA inspection occur at a City job site.

CHEMICALS

Contractors must agree to provide material safety data sheets for all substances that are delivered to the City of Scottsdale, that come under the Federal Toxic and Hazardous Substance - Hazard Communication Standard, Section 1910 - 1200 Hazard Communication (reference-Occupational Safety and Health Standard, Subpart - 2 Toxic and Hazardous Substances - Hazardous Communication Standard).

All Contractors using chemicals on City of Scottsdale property, shall use only the safest chemicals, with the least harmful ingredients. These chemicals shall be approved for use by a City of Scottsdale representative prior to bringing them on property.

Contractors shall make every attempt to apply approved chemicals with highly volatile organic compounds, outside of working hours. Adequate ventilation shall be used at all times during the application of these approved chemicals.

In conjunction with the Occupational Safety and Health Standards, Subpart-2 Toxic and Hazardous Substances-Hazard Communication Standard, Section 1910-1200 Hazard Communication, Contractors are hereby informed of the presence of (or possible presence) of chemicals in the area where the work requested will be performed. It is the responsibility of all selected Contractors to contact the City of Scottsdale for specific information relative to the type of chemicals present and location of appropriate material safety data sheets.

FEDERAL-AID CONTRACT REQUIREMENTS:

This project is partially funded with Federal-Aid funds, which for this project the funding is from the Federal Government to be used for transportation purposes. Since this project includes Federal-Aid funding, certain Federal-Aid Contract Requirements are included within these Specifications. The Contractor shall comply with all the Federal-Aid Contract Requirements as outlined in Appendix A at no additional cost to the City.

INVITATION FOR BID #10PB002

CROSSCUT CANAL MULTI-USE PATH PHASE II

SCOTTSDALE PROJECT NO. T0703
ADOT PROJECT NO. ARRA-SCT-0(200)A
ADOT TRACS NO. 0000 MA SCT SL602 01C

TECHNICAL SPECIFICATIONS

EXPIRES 9-30-2012

November 2009

Table of Contents

1. GENERAL:

This project is the second phase of the Crosscut Canal Multi-Use Path. Phase I was recently completed by the City of Scottsdale. The contractor is encouraged to visit the Phase I project located along the west bank of the Crosscut Canal from McDowell Road to Thomas Road as elements from the Phase I project are utilized in Phase II. Phase I Plans and Technical Specifications are also available for review at:

HDR
Lee Busenbark
3200 E Camelback Rd, Ste 350
Phoenix, AZ 85016
602-522-7700

A geotechnical investigation of the site has been prepared is located in Appendix A. The contractor shall be responsible for determining the validity of the investigation along with the conclusions or interpretations drawn from the report. Additional borings or testing may be requested, but shall be arranged and scheduled by, and shall be at the expense of the contractor.

2. SPECIFICATIONS:

The work embraced herein shall be performed in accordance with the requirements of the following separate documents:

City of Scottsdale (www.scottsdaleaz.gov/design) :

- 2008 Supplement to MAG Uniform Specifications for Public Works Construction
- Standard Detail Drawings, 2008 Revision
- Traffic Signals – Special Requirements
- Design Standards and Policy Manual

Maricopa Association of Governments (MAG) (www.mag.maricopa.gov/publications.cms):

- 2009 Uniform Standard Specification for Public Works Construction
- 2009 Uniform Standard Details for Public Works Construction

Arizona Department of Transporation (ADOT), Engineering Records Publications, 1655 W Jackson, Room 175, Phoenix, AZ 85007. Phone: 602-712-8216.

- Standard Specifications for Road and Bridge Construction, Edition of 2008 (Publication #31-066)
- Intermodal Transportation Division, Construction Standard Drawings, listed in the project plans and defined hereinafter
- Traffic Group, Traffic Signal and Lighting Standard Drawings

City of Phoenix (www.phoenix.gov/STREETS/tbm07cov.pdf) :

- Street Transportation Department, 2007 Traffic Barricade Manual

Federal Highway Administration (FHWA) (www.mutcd.fhwa.dot.gov)

- Manual on Uniform Traffic Control Devices

3. AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA):

This project is utilizing Federal-Aid Funds; as such it is subject to additional requirements.

The contractor shall submit all ARRA reporting requirements for DBE and workforce on the 4th and 14th of each month.

4. CONTRACTOR OBLIGATIONS:

The contractor shall conduct all of his activities in a manner respectful of the surrounding environment. The contractor shall exercise caution at all times to preserve all vegetation outside the clearing limits throughout the project.

The project limits, shall be cleaned of all trash, debris, construction materials and equipment at the completion of each work day. No equipment, personal vehicles or materials shall be stored on site during non-working hours, holidays or non-working days. No payment shall be made for this work, the cost being considered as included in other items of work.

All new construction shall be completed within the right-of-way or temporary construction easement areas shown on the Project Plans.

Access to the project shall be made via the Crosscut Canal SRP right-of-way, City of Scottsdale right-of-way or via the temporary construction easements shown on the Project Plans. Access is available from Thomas Road and Indian School Road.

The contractor is notified that access through the Scottsdale Executive Plaza parking lot will not be permitted.

If the contractor wishes to conduct activities on land areas outside the approved limits, the location must be identified, reviewed and approved by the Engineer, then the contractor must submit for approval a reclamation plan, obtain archaeological clearance for the site(s) and secure approval from the Engineer prior to any ground disturbing activities at the sites. The reclamation plan shall identify in written and graphic form the acreage to be disturbed, resources within the area which will be preserved or disturbed, proposed activities and equipment to be allowed within the area, a schedule of the duration and extent of use of the area, a post-project contour plan, native plant inventory procedures and a site-specific re-vegetation element. The re-vegetation element must quantify the number, size and species of container or salvaged plants to be replanted, installation methods for replanting, locations of the re-plantings, watering techniques (for a 3-month period commencing from the project completion date) and proposed maintenance activities during the 3-month establishment period. No payment shall be made for this work, the cost being considered as included in other items of work.

The contractor shall not remove or damage any existing public or private improvements outside the Project Construction Area right-of-way. Existing public or private improvements damaged or removed by the contractor shall be repaired by the contractor at no cost to the City.

Improvements constructed, installed, operated and maintained within the Project Construction Area shall not interfere with SRP's use of SRP's existing or any future irrigation or electric facilities on or adjacent to the Project Construction Area.

To prevent the introduction of invasive species seeds, all earth moving and hauling equipment shall be washed at the contractor's storage facility prior to entering the construction site.

To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.

If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location and shall take all reasonable steps to secure the preservation of those resources. The City of Scottsdale Inspector will immediately make arrangements for the proper treatment of those resources.

The contractor shall provide alternate pedestrian and bicycle routes during closures.

At least 14 calendar days prior to construction, the contractor shall place advanced warning signs at locations designated by the City of Scottsdale to notify pedestrians and bicyclists of construction-related closures and corresponding alternate routes.

The contractor shall complete the new pedestrian bridge prior to restricting any access to the existing Osborn pedestrian bridge.

If suspected hazardous materials are encountered during construction, work shall cease at that location and the City of Scottsdale Inspector will be contacted to arrange for proper assessment, treatment, or disposal of those materials.

The contractor, in association with the City of Scottsdale, will submit the Arizona Pollutant Discharge Elimination System Notice of Intent and the Notice of Termination to the Arizona Department of Environmental Quality only after the City of Scottsdale has reviewed and approved the Stormwater Pollution Prevention Plan.

The contractor shall prepare the Storm Water Pollution Prevention Plan.

This project is located within a designated municipal separate storm sewer system. Therefore, the contractor, in association with the City of Scottsdale, shall send a copy of the certificate authorizing permit coverage and a copy of the Notice of Termination acknowledgement letter to the Scottsdale Large Municipal Separate Storm Sewer System.

5. CONTROL OF MATERIALS

General: Conform to the requirements of MAG Sec. 106 except as modified herein.

106.1 SOURCE OF MATERIALS AND QUALITY is modified to add:

The contractor must comply with 49 U.S.C. 5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in federal-funded projects are produced in the United States, unless a waiver has been granted by the Federal Highway Administration (FHWA) or the product is subject to a general waiver. Certificates of Compliance and Certificates of Analysis for cement shall conform to the following requirements and shall additionally identify whether the cement is foreign or domestic.

All manufacturing processes to produce steel products used on this project shall occur in the United States. Raw materials used in manufacturing the steel products may be foreign or domestic. Steel not meeting these requirements may be used in products on this project provided that the invoiced cost to the contractor for such steel products incorporated into the work does not exceed either one-tenth of one percent of the total (final) contract cost or $2,500, whichever is greater.

Convict-produced materials may not be used unless the materials were produced prior to July 1, 1991 at a prison facility specifically producing convict-made materials for Federal-aid construction projects.

Any process which involves the application of a coating to iron or steel shall occur in the United States. These processes include epoxy coating, galvanizing, painting, or any other coating which protects or enhances the value of covered material.

The contractor shall furnish the Engineer with Certificates of Compliance which state that steel products utilized on the project meet the requirements specified. The Certificates of Compliance shall also certify that all manufacturing processes to produce steel products, and any application of a coating to iron or steel, occurred in the United States.

6. MOTOR VEHICLE USE, MAINTENANCE AND REPAIRS – SPECIAL CONDITIONS

When operating a motor vehicle within the Project Construction Area, the contractor must at all times:

(A) Enter onto and exit from the Project Construction Area at the point of reasonable access closest to the component of contractor's facilities requiring maintenance;

(B) Maintain a speed not to exceed five (5) miles per hour;

(C) Ensure safe and reasonable passage through or around contractor's vehicle and other repair facilities;

(D) Ensure that no site of ongoing maintenance of contractor's facilities is left unattended; and

(E) Refrain from accessing the Project Construction Area with a motor vehicle except when necessary to effectuate maintenance of contractor's facilities.

7. SALT RIVER PROJECT RIGHT TO INSPECT

SRP may enter any part of the Project Construction Area at all reasonable times to make an inspection thereof. During any construction, SRP may inspect all trenching, backfilling and other related construction activity that potentially affects SRP's facilities and requires conformance with all SRP's requirements and specifications related thereto.

8. DESIGN – AESTHETIC CHANGES, ALTERATIONS OR SUBSTITUTIONS

The contractor shall obtain approval from the Engineer prior to implementation of any proposed change, alteration, or substitution that may affect the original design intent of the project, as determined by the City of Scottsdale.

The contractor shall direct all requests for any change, alteration or substitution to the Engineer and will receive approval or denial for any such request directly from the Engineer.

The contractor shall be held accountable and liable for any change, alteration or substitution made or implemented without obtaining prior approval.

Examples of design-aesthetic changes, alterations or substitutions shall include, but not be limited to the following:

(A) Granite mulch, decomposed granite and rock mulch – color, size and shape.

(B) Plants – variety, species, type, structure, size, location, quality and quantity.

(C) Irrigation components – specified type, size, layout, location and quantity.

(D) Landform graphic – layout shape, size, location and materials.

(E) Paint or stain – type, texture, color, shade, quality and hue.

(F) Site Components – (Colored block and concrete walls, colored sidewalk, benches, trash receptacles, bike loops) – specified type, size, color, layout, location and quantity.

9. SAW CUTTING

Saw cuts at points abutting existing pavements will be required. This shall include existing bituminous pavement or Portland cement concrete pavement of streets, driveways, parking lots, and sidewalks where new construction shall match the grade of existing surfaces that are to remain where called for on the project plans or where designated by the Engineer.

Existing pavements, which are to be matched by pavement widening or pavement extension, shall be trimmed to a neat true line with straight vertical edges free from irregularities with a saw specifically designed for this purpose. No wheel cutting will be allowed. Pavements cuts shall be full depth for AC pavements and PCCP.

The existing pavement shall be cut and trimmed after placement of the required aggregate base course and just prior to placement of asphalt concrete for pavement widening or extension, and the trimmed edges shall be painted with a light coat of asphalt cement or emulsified asphalt immediately prior to constructing the new abutting asphalt concrete pavements.

Portland cement concrete designated to remain that is damaged by saw cutting shall be removed and replaced at the contractor's expense.

No measurement or payment will be made for saw cuts. Costs shall be considered as included in related contract items.

10. SINK HOLES

At the direction of the City of Scottsdale, the contractor shall fill and compact sink holes that exist along the western face of the existing 64th Street retaining wall or as directed by the City Inspector. The contactor shall take care not to cause damage to the existing wall. Any damage wall shall be repaired at the contractor's expense.

No measurement or payment will be made for filling sink holes. Costs shall be considered included in related contract items.

11. POWER LINES

The project has a network of underground and overhead power lines. All work at or in close proximity to said lines shall be performed in accordance with all Federal, State, and local laws and regulations including but not limited to:

Arizona law regarding "Underground Facilities" (A.R.S. 40-360.21, .22, .24, .26 and .28).

Arizona law regarding "High Voltage Power Lines and Safety Restrictions" (A.R.S. 40-360.41-.45).

The Occupational Safety and Health Administration.

The National Electric Safety Code.

The contractor shall maintain at least one direction of access to all SRP facilities in the project area.

The Contractor shall supply a Safety Officer on-site during construction activities under overhead power lines. These activities include, but are not limited to the following: drilled shaft construction activities and placement of the MUP Pedestrian Bridge Steel Truss Superstructure. The Safety Officer shall have experience in working in an electrical environment and be knowledgeable in such topics as grounding drill rigs and other equipment.

12. PEDESTRIAN ACCESS

The contractor shall ensure that all sidewalks on this project remain in compliance with The Americans with Disabilities Act (ADA) Standards. All open pedestrian walkway areas, paved or unpaved, shall be maintained and safely useable at all times. Such measures as backfilling or ramping to existing sidewalks, or providing alternate sidewalk areas adjacent to existing sidewalks may be used.

Pedestrian access between Thomas and Indian School Roads shall be provided on the sidewalk on the east side of 64th Street. The contractor shall provide signs to direct pedestrians to cross Thomas and Indian School Roads at the existing 64th street lights.

The contractor shall coordinate his work schedule to minimize closure of the Osborn Pedestrian access ramp and pedestrian bridge during school hours. The contractor shall coordinate with the following schools:

Ville de Marie Academy
6535 E. Osborn Rd, Ste 404
Scottsdale, AZ 85251
Ph: 480-947-9441
http://www.vdmschool.com

Ingleside Middle School
5402 E. Osborn Rd
Phoenix, AZ 85018
Ph: 480-484-4900
http://susd.ingleside.schoolfusion.us

The contractor shall complete the new pedestrian bridge prior to restricting any access to the existing Osborn pedestrian bridge. During the closure of the existing Osborn pedestrian bridge, the contractor shall provide signs guiding pedestrians to the intersection of Indian School Road and 64th Street.

"PATH CLOSED" signs shall be installed 500 feet in advance of the contractor's activities or as directed by the Engineer.

No specific measurement or payment will be made for this work, the cost being considered as included in Maintenance of Traffic.

13. TREE REMOVAL

All tree removal shall conform to MAG Section 201.

14. TEMPORARY CONSTRUCTION FENCING

The contractor shall provide safety constructing fencing around all open trenches and excavations during all non-working hours.

The contractor shall provide for the safety and welfare of the general public by adequately fencing all excavations and trenches that are permitted by the Engineer to remain open when construction is not in progress.

Fencing shall be securely attached to approved steel posts located six feet on centers, having a minimum height of six feet, and shall consist of wire mesh fabric of sufficient weight and rigidity to adequately span a maximum supporting post separation of six feet.

The fencing, when installed about the periphery of excavations and trenches, shall form an effective barrier against intrusion by the general public into areas of construction. Fencing shall not create sight distance restrictions. At all times when construction is not in progress, the contractor shall be responsible for maintaining the fencing in good repair, and upon notification by the Engineer, shall take immediate action to rectify any deficiency. Prior to start of any excavating or trenching required for the execution of proposed work, the contractor shall submit to the Engineer for approval, detailed plans showing types of materials and methods of fabrication for the protective fencing.

Privacy screening shall be provided when called for on the plans or as required by the Engineer. Privacy screening shall be a woven panel that is approved for use in construction zones and shall be securely attached to construction fencing.

No separate measurement or payment will be made for Temporary Construction Fencing or Privacy Screen, the cost being considered included in traffic control work.

15. TEMPORARY SHORING

During construction, the contractor shall design, construct and then remove temporary excavation support systems (shoring) as required to maintain SRP facilities, maintain traffic, for protection of workers and for protection of existing utilities and items shown on the plans as to be protected in place or to remain. Shoring shall be constructed in accordance with Section 203.2 of the ADOT Standard Specifications and shall remain in-place until such time as the new construction is complete and shoring is no longer required.

Shoring shall conform to the design and construction specifications listed on the project plans and as specified herein. The contractor shall submit a plan outlining construction procedures and the shoring design to the Engineer for review and approval prior to proceeding with work. Shoring plans shall be prepared in accordance with the requirements of ADOT Subsection 105.03 and bear the seal and signature of a licensed Professional Civil or Structural Engineer, registered in the State of Arizona, and experienced in the type of work.

No measurement or payment will be made for the design, construction, or removal of temporary excavation support systems, the work being considered as included in the unit bid price for related contract items.

16. REMOVAL OF EXISTING SRP SIGNS

The contractor shall coordinate the removal of existing SRP signs with John Evans (602-236-2394).

17. PLANS AND SHOP DRAWINGS (SUBMITTALS)

General: Conform to the requirements of MAG Standard Specifications Section 105.2 except as noted herein.

Materials: The Contractor shall furnish copies to the Engineer of product data, material certificates, mix designs and shop drawings in sufficient detail to show complete compliance with all specified requirements, including but not necessarily limited to the following:

Product Data:

Pipes and appurtenances
Vaults and manholes
All lighting components
All art project components
Paint

Product data shall include information such as the manufacturer's printed recommendations, compliance with recognized trade association standards, application of testing agency labels and seals, product dimensioning, and notation of coordination requirements.

Certificates:

Piping materials
Gaskets
Steel

The certificates shall be prepared by the Manufacturer or testing agency thereof and shall include technical specifications and compliance with industry trade association and testing agency standards.

Mix Designs:

Portland cement concrete

The mix designs shall directly compare the proposed mix components and properties with those of the referenced standard mix.

Shop Drawings:

Sequence of construction details
Traffic control plans-haul routes
Utility protection plans
Storm drain pipe layout per MAG Section 735
Reinforcing steel bending and layout
Details of structures if non-standardized
Falsework
Steel fabrication details
Shoring
Pedestrian Bridge
Removable bollard
Handrail

Shop drawings shall include the name of the project, project number, date prepared, name of the Preparer, Contractor, and Subcontractor, if applicable. All dimensions and identification of products and materials included, along with notation of any coordination requirements and established field dimensions/measurements/verifications shall be clearly shown or noted.

Drawings of minor or incidental fabricated material and/or equipment may not be required by the City of Scottsdale. The Contractor shall furnish the City tabulated lists of such fabrications, showing the names of the manufacturers and catalog numbers, together with samples of general data as may be required to permit determination by the City as to their acceptability for incorporation into the work.

Samples:

Rip Rap
Decomposed Granite

Samples shall be representative of the materials to be incorporated into the project and submitted in sufficient quantity to permit evaluation and/or comparison. Samples shall be approved by the Engineer.

Distribution and Review: The contractor shall anticipate and schedule for a two week review period by the City of Scottsdale and/or its designee during which time will either approve, disapprove, or request modifications. The latter two will require resubmittal of the material and a

subsequent additional review period. This process shall be repeated until all submitted materials have been approved.

Shop drawings shall be on sheets in standard size increments between 8 1/2 x 11 and 24 x 36. All drawings shall indicate the name of the job, the City's job number, date, names of the Contractor, Subcontractor and Preparer, and the date of approval by the Contractor. All other data, certificates or mix design reports shall be presented on 8 1/2 x 11 format, or as provided by the Supplier/Manufacturer.

Six Contractor approved copies along with a letter of transmittal shall be delivered to the City's Contract Administrator. The Contractor shall first review all submitted data for compliance with specification and job requirements. Any Contractor comments, recommendations, etc. shall be clearly noted on the submitted data. The contractor shall provide all submittal material far enough in advance of scheduled need to allow for the noted City review time. The City will not consider time extension requests or delay/damage/inefficiency claims/etc. resulting from the contractor failing to properly schedule submittals.

If the submittal is acceptable, three copies will be stamped approved, dated, initialed by the Reviewer, and returned to the Contractor.

If the submittal requires corrections or is rejected, three copies along with an explanation of the outstanding concerns will be returned to the Contractor for revision and the subsequent resubmittal as described above.

Resubmittal of any required corrections shall be made within ten working days.

Contract Documents: Approved drawings, data, mixes and certificates as they are returned to the Contractor will become a portion of the Contract Documents.

18. COOPERATION WITH UTILITIES

General: Conform to the requirements of MAG Sec. 105.6 and as modified herein.

The locations of existing underground utilities have been shown on the plans to the best of the Design Engineer's knowledge; however, it shall be the Contractor's responsibility to field verify all utility locations and to coordinate in a timely manner with the pertinent utility companies so that any obstructing utility installation may be adjusted without delay to the Contractor's project schedule. In addition, the City will not consider additional compensation requests from the contractor to perform any potholing, utility company coordination, etc. needed to locate/verify utility location, to adjust contract work items as necessary to avoid utility line conflict, to cooperate with utilities in adjusting schedule as needed to allow for utility company work, relocations, etc. The contractor's bid shall allow for/include the above coordination/work/adjustments based on the best available information known/provided in the contract.

The contractor shall be responsible for potholing all utility conflicts in a timely manner.

The contractor shall be responsible for performing trenching and installation of conduit for SRP and Cox. The contractor shall coordinate this work with SRP and Cox prior to starting work.

Contacts: The following telephone numbers should put the Contractor in contact with the proper

personnel:

UTILITY CONTACTS			
Entity	**Name / Title**	**Address**	**Phone Numbers**
Salt River Project - Transmission Line Design	Bill Phillips Senior Engineer Power	Mail Station XCT315 P.O. Box 52025 Phoenix, AZ 85072-2025	P-602-236-8092 F-602-914-8726 wgphilli@srpnet.com
Salt River Project - Water Engineering	Jim Duncan Senior Analyst Water	Mail Station PAB 106 P.O. Box 52025 Phoenix, AZ 85072-2025	P-602-236-5380 F-602-236-2737 jcduncan@srpnet.com
Salt River Project – Municipal Engineering	Derek Lagunas	SRP Cust & Sys Imp – Municpal Maildrop XCT 341 P.O. Box 52025 Tempe, AZ 85072	P- 602-818-0178 F- 602-236-0875
Salt River Project – Line Maintenance Engineering	Paula Atkins Senior Engineer	Mail Station TSC401 P.O. Box 52025 Phoenix, AZ 85072-2025	P-602-236-8467 F-602-629-8471 pmatkins@srpnet.com
Cox Communications	Travis Curry	Deer Valley Facility 1550 W. Deer Valley Rd. Phoenix, AZ 85027	P-623-328-3519 M-602-694-2047 travis.curry@cox.com
Qwest Communications	Ian Holmes	6350 S. Maple Ave Tempe, AZ 85283	P-602-630-0496 F-602-371-6653
APS - Arizona Public Service	John Rael Design Project Leader	P.O. Box 53933, Mail Station 3162, Phoenix, AZ 85072-3999	P-602-371-6945 F-602-345-4901 john.rael@aps.com
City of Scottsdale - Traffic	Reginald Fitzpatrick	7447 E. Indian School Road,Ste.205 Scottsdale, AZ 85251	P-480-312-5637

19. SEQUENCE OF WORK/ CONSTRUCTION SCHEDULE

General: Shall conform to the requirements of MAG Section 108.5 except as modified herein.

The Contractor shall plan construction activities between normal work hours; 7 a.m. to 5 p.m., Monday through Friday excluding national and state holidays.

Work outside these hours is permissible provided a construction schedule has been prepared, submitted to and found acceptable to the City of Scottsdale. The schedule shall identify the work to be performed, including the location and duration of planned activities. Submittals shall be made a minimum of seven days prior to the planned work to allow sufficient time for the City to review the request and schedule any necessary inspections. The Contractor shall be responsible for payment for all overtime and off-hours inspection and testing services that occur outside the normal and excepted working hours indicated above.

Sequence: All underground work must be completed to the satisfaction of the Contract Administrator prior to the start of any roadwork, unless the Contractor can provide a sequence of work schedule and traffic control plan which will demonstrate, to the satisfaction of the City, that neither traffic safety nor contractor operations will be adversely impacted. The Contract Administrator shall have total discretion and authority to accept or reject the Contractor's proposed sequence of work schedule and traffic control plan.

Contractor's Construction Schedule: MAG Section 108.4 shall be modified to add:

The contractor shall be responsible for planning, scheduling and reporting the progress of the work as to ensure timely completion of the work called for in the contract.

(A) The schedule shall be time-scaled in calendar days. All activities shall be plotted on their early start and finish dates.

(B) The schedule shall show the order and interdependence of activities and the sequence of work as reflected in the schedule report as described below. The critical activities shall be prominently distinguished.

(C) The schedule shall include, in addition to all construction activities, such tasks as mobilization, demobilization, submittal and approval of samples of materials and shop drawings, procurement of significant materials and equipment, and fabrication of special items, as well as installation and testing; and interfacing with other projects/contractors/utility companies/etc.

No direct measurement or direct payment will be made for contractor costs relating to preparation and submission of schedules and reports and revisions thereto.

Failure of the contractor to comply with the requirements of this section will be grounds for withholding an additional 10 percent of the monthly progress payment. Additional money withheld will be paid upon compliance to the contractor on the next scheduled monthly progress payment.

20. PERMITS

General: Text in MAG Section 107.2 shall be deleted and the following inserted:

It shall be the responsibility of the Contractor to obtain and provide payment for all required permits for construction, dust control, relocation of native plants, erection of signs, etc. The contractor shall be responsible for identifying all permits that are necessary for the project.

The Contractor shall be responsible for securing and payment for any necessary hydrant meters including deposits and all fees for water usage.

Though fees have been waived for shutdown and miscellaneous charges for City services, the Contractor shall be responsible coordinating with the City on work associated with water main shutdowns or miscellaneous charges. Contact City of Scottsdale One-Stop Shop for a schedule of the available services.

A special grading permit at the Contractor's expense will be required when using spoils to fill private property. No grading will be allowed until a Grading and Drainage Plan has been approved by the City.

All haul routes for removals, excavation and dirt moving must be approved by the City of Scottsdale prior to commencement of operations.

This project is subject to the Maricopa County Air Pollution Control Regulations. The Contractor shall comply with the provisions of Scottsdale MAG Supplemental Specification Subsection 107.2.2.

This project is subject to the National Pollutant Discharge Elimination System (NPDES) stormwater requirements for construction sites under the Environmental Protection Agency (EPA) General Permit for Arizona. City of Scottsdale Supplemental MAG Specification Subsection 107.2.1 shall apply.

The Contractor shall obtain from Salt River Project a Construction Clearance Agreement and abide by the terms and conditions contained therein.

21. PRECONSTRUCTION CONFERENCE/ WEEKLY MEETINGS

Preconstruction Conference: The Contractor and all subcontractors shall attend a preconstruction conference meeting at a time and location designated by the Contract Administrator. The Contractor shall be prepared and ready to present to the Contract Administrator all required schedules, plans, etc. as described elsewhere in these special provisions and within the MAG Standard Specifications.

Weekly Meetings: The Contractor shall plan for and attend weekly meetings with the City at a location and designated time determined by the Contract Administrator. The Contractor shall include in the construction schedule adequate time for weekly construction progress meetings. The contractor shall be responsible for taking and distributing the meeting minutes.

22. BID ITEMS

The following bid items are numbered to correspond to the Schedule of Bid Items and are included to explain details of work not covered by applicable Standard Specifications and to relate work and pay quantities to the specific Bid Item. Any item of work shown or implied on the plans and not covered under a bid item shall be considered incidental to the project.

ITEM 104150 PROJECT SIGNS

General: Two project signs, approximately 4 foot x 8 foot in size, will be furnished and installed by the contractor, at the location designated by the City's Inspector.

The contractor shall maintain the signs for the duration of the project.

Materials: The contractor shall furnish two four by four posts, for each sign, of sufficient length to mount the signs 4 feet above ground level and anchored 2 feet into the ground. The posts shall be pressure treated white wood painted with two coats of Navajo White acrylic enamel exterior paint prior to attaching them to the sign.

Weekly Updates: The progress graph shall be updated weekly by the City Inspector, using red pressure sensitive tape.

Salvage: At the completion of the project, the signs will become the property of the City and will be carefully removed by the Contractor and delivered to Transportation Maintenance, at the City Corporation Yard, 9191 E. San Salvador Drive.

Measurement and Payment: Payment for the project signs will be made at the unit price per each, as shown on the Schedule of Bid Items, and shall be considered full compensation for all material, equipment, labor and appurtenances to complete the work as described and specified herein.

ITEM 105801 CONSTRUCTION SURVEYING

MAG Section 105.8, Construction Stakes, Lines and Grades is deleted and the following inserted:

General: The Contractor shall furnish all materials, personnel, and equipment necessary to perform all surveying, staking, laying out of control lines and verifications of the accuracy of all existing control points which are delineated in the Contract Documents. The work shall be done under the direction of a Registered Land Surveyor licensed to practice in the State of Arizona.

Staking Outline: Prior to beginning any survey operations, the Contractor shall furnish to the City of Scottsdale Project Manager, for approval, a written outline detailing the method of staking, interval of stakes, marking of stakes, grade control for various courses of materials, referencing, structure control, and any other procedures and controls necessary for survey completion. A part of this outline shall also be a schedule which will show the sequencing of the survey and layout work, throughout the course of the contract, listing a percentage of completion for each month.

Field Books: The Contractor shall furnish field books to be used for recording survey data and field notes. These books shall be available for inspection by the City at any time and shall become the property of the City upon completion of the work.

Survey Control Verification:

(A) Control Points (horizontal and vertical) - The existence and location of all survey monuments, bench marks and control points shall be verified prior to demolition or construction activity. Immediately notify the City of Scottsdale Project Manager when location discrepancies greater than two-hundredths (0.02) foot horizontal or one-hundredth (0.01) foot vertical are found. All datum shall be City of Scottsdale. The average elevation of the project is 1270 feet MSL.

(B) Control Lines - Construction control lines with grade breaks, transition points, horizontal and vertical curves, etc., shall be established and referenced prior to construction.

(C) Temporary Bench Marks - Temporary bench marks shall be established and referenced at this time.

NOTE: The contractor shall be responsible for the restoration in accordance with local government requirements of all existing survey monumentation disturbed by construction. This will include section and quarter section corners, property corners, and right of way markers that may be disturbed. Restoration of said monuments shall be accomplished by an Arizona registered land surveyor in accordance with applicable State of Arizona statues at no cost to the owner.

Pre-Construction Location Survey: As a first element of work, the contractor shall verify data and datum for geometric layout and basis of bearing. All existing features which are located prior to construction shall be referenced to survey monuments along control lines by stationing in accordance with the construction documents and by offset distance from the control lines. All features shall be relocatable after construction. Distances measured shall be within one-hundredth (0.01) foot.

(A) Survey monuments - All survey monuments that lie within the construction area that may be disturbed shall be referenced to a specific point on at least four (4) stable objects by distance measurement. Reference objects shall be located no greater than three-hundred (300) feet from the survey monument being referenced.

(B) Water and Sewer line appurtenances - Water and sewer line surface appurtenances such as manholes, valves and cleanouts that lie within the construction area shall be located and noted on the Contractor's approved construction documents prior to any demolition or excavation.

(C) Match Points and Removals - Verify the location (horizontal and vertical) of existing facilities to which the project connects. Immediately notify the City of Scottsdale Project Manager when location discrepancies of connecting facilities greater than one- tenth (0.10) foot horizontal or two-hundredths (0.02) foot vertical are found.

Construction Stakes: The Contractor shall set construction stakes and marks establishing lines and grades for road work, curbs, gutters, sidewalks, structures, buildings, centerlines for utilities and necessary appurtenances and other work as indicated in the Contract Documents and shall be responsible for their conformance with the plans and specifications.

The stakes shall be established in accordance with the following guidelines which represent the minimum standard and the Contractor shall provide additional stakes and controls necessary to perform the work. The Contractor shall be held responsible for the preservation of all stakes and marks and will replace, at no additional cost to the City, any construction stakes or marks which have been carelessly or willfully destroyed by any party.

(A) Curbs, Curb and Gutter, Valley Gutter:

(1) Curb and gutter shall be staked and installed prior to sidewalk construction.

(2) Cut/fill stakes for rough grade shall be set at one-hundred (100) feet intervals with cuts to the top of curb.

(3) Finish grade stakes shall be set to curb grade at twenty-five (25) feet intervals, at grade brakes, angle points, transitions, returns, driveways, alley entrances, sidewalk ramps and other curb control points. The stakes shall be tacked for line on a two (2) foot offset to the back of curb.

(4) Face of curb forms shall be checked for grade at flow line prior to placing concrete where longitudinal grades are one- tenth (0.10) percent or less.

(5) Face of curb forms shall be checked for grade at gutter line prior to placing concrete for transitions from or to MAG 220 Type “A” and City of Scottsdale 2220 Type “A” curb and gutter at 30 foot intervals.

(6) Valley gutter stakes shall be set offset five (5) feet from the centerline of the valley gutter at twenty-five (25) feet intervals, marked with cuts to the flowline of the valley gutter.

(B) Sidewalk and Bike Paths:

(1) Subgrade stakes shall be set to subgrade elevation at fifty (50) feet intervals on straight sections, twenty-five (25) feet intervals through vertical curves, on horizontal curves with radiii of six-hundred (600) feet, or less, and/or slopes of less than four-tenths of one percent (0.4%), the beginning and end of horizontal and vertical curves and grade breaks. Stakes shall be set at grade break lines and at edges of concrete path and at the edge of path abutting curbs or other structures whose surface grade will not be flush with the finished path grade.

(2) Sidewalk stakes shall be set to grade on an offset and tacked for line at twenty-five (25) feet intervals at the beginning and end of horizontal and vertical curves and grade breaks.

(C) Storm Sewer and Drainage: All cuts will be to the invert of the pipe, given to the nearest one-hundredth (0.01) of a foot.

(1) Stakes for storm sewer will be driven flush with the existing ground, set on an offset at fifty (50) feet intervals. Stakes will be marked with the offset and indicated cut.

(2) Wyes for laterals will be marked with a line only stake.

(3) Manholes shall be marked with the offset and indicated cut to top of manhole grade and inverts.

(4) Stakes for storm water inlets, two (2) per inlet, will be set on a line normal to the roadway at the center line of the inlet five (5) and ten (10) feet from the face of curb.

The stakes will be marked with the offset to the face of curb and the cut or fill to the top of curb and inverts.

(5) Cut sheets shall be supplied to the Contractor and City Inspector.

(D) Retaining Walls: The Contractor shall delineate the procedures and controls to be utilized in the Staking Outline.

(1) The outside face of the retaining wall will be accurately established and offset stakes shall be set at twenty-five (25) feet intervals and at each change in direction.

(2) Offset stakes shall be set for corners of footings. Stakes will be marked with the offset and indicated cut to the top of footing elevation. Forms in place will be checked for line and grade before concrete will be poured.

(E) Traffic Signing and Striping: The Contractor shall delineate the procedures and controls to be utilized in the Staking Outline.

(F) Landscaping: The Contractor shall delineate the procedures and controls to be utilized in the Staking Outline.

(G) Pipe Culverts: All cuts will be to the invert of the pipe, given to the nearest one-hundredth (0.01) of a foot.

(1) Stakes for culverts will be driven flush with the existing ground, set on an offset at fifty (50) feet intervals. Stakes will be marked with the offset and indicated cut.

(2) Cut sheets shall be supplied to the Contractor and City of Scottsdale Inspector.

(H) Parking Lots:

(1) Subgrade stakes shall be set on a 50-foot grid plus grade breaks, valley gutters and crown lines. If parking lot pavement is installed on compacted subgrade, subgrade stakes shall be set on a 25-foot grid plus grade breaks, valley gutters and crown lines.

(2) ABC grade stakes shall be set on a 25-foot grid plus grade breaks, valley gutters and crown lines.

(3) Curbs, gutters, sidewalks, waterlines, sewer lines, etc., shall be staked as described “(A)” above.

Re-establishment Survey:

(A) Monument locations will be marked with "straddlers" (four (4) nails with metal "shiners") driven into the pavement, placed in pairs approximately six feet apart and opposite to each other. Lines connecting opposing pairs shall form a ninety (90) degree cross with three foot legs. The center of the cross will signify the exact location of the center of the monument to be set. Monuments will be drilled or punched after they have been set.

(B) Manhole, valve box and cleanout locations shall be painted on the pavement.

Inspection and Acceptance of Work: The City reserves the right to make inspections and random checks of any portion of the staking and layout work. If, in the City's opinion, the work is not being performed in a manner that will assure proper control and accuracy of the work, the City will order any or all of the staking and layout work redone at no additional cost.

Measurement and Payment: Construction surveying will be measured as a single complete item of work and paid at the lump sum price indicated on the Schedule of Bid Items, which amount shall be considered full compensation for the work as described herein and required to provide all necessary survey stakes and control. The approved schedule showing the sequencing and percentage of the survey and layout work shall be the basis on which monthly progress payments shall be made. This schedule shall be subject to periodic review, at the request of either party, if the survey and layout work lags or accelerates. If necessary, the schedule will be revised to reflect changes in survey and layout progress. When approved, the revised schedule will become the basis for payment.

ITEM 105820 CONSTRUCTION SURVEYING AS-BUILTS

General: The as-built work shall conform to the City of Phoenix Survey Section Standard Requirements For: Staking, As-Builts, Quantity Calculations; dated January 1, 1980.

A full size set of project drawings shall be kept on-site and updated on a weekly basis with a red pencil or red ink to reflect any field adjustments, changes, omissions, additions, etc. as they occur on the project. The City inspector will check site as-builts on a weekly basis to insure all modified project elements have been properly recorded on the field plan set.

The City will provide the Contractor with the original mylar plan sheets for use in preparing final as-builts. Information shall be shown on these mylars in red opaque ink, depicting the constructed dimensions, elevations, grades and materials including locations of existing underground utilities found during construction.

The Contractor shall exercise extreme care in handling the originals and will return them to the City in like condition. In the event the originals are damaged or determined by the City to be unacceptable, the Contractor shall replace the originals by contacting the design Engineer of record and have new drawings produced. All costs incurred as the result of replacing the originals shall be borne by the Contractor. The City will be the sole judge in determining whether the as-builts are acceptable.

All work included in the contract documents as well as changes to the contract shall be noted as correct or modified by either checking off the information if it is correct, or by drawing a neat line through the original data and writing in the correct information in red opaque ink if the information is incorrect. Unless noted otherwise below in the minimum as-built requirement section, station/offset measurements will be from construction centerline/monument line both parallel and transverse to roadway; added items or location changes shall be physically drawn at revised or new locations on the as-builts; and all measurements and stations should be to the nearest tenth of a foot.

The minimum requirements for mylar as-built acceptance is as follows:

(1) Project Drawing Quantity Notations: Any project drawing or quantity summary sheet that shows a quantity on it that is incorrect shall be corrected by drawing a neat line through the original quantity and writing in the correct information. When space on the drawing does not

allow room to indicate the corrections, a separate table may be drawn on a separate sheet with reference on both plan sheets to the plan sheet that the table refers to or to the sheet where the table is located.

(2) Existing/New Utilities: All underground infrastructure utilities, whether depicted on the project plans or not, shall be verified, corrected or added to the as-builts noting the beginning and ending station/offset location and elevation of utility relative to finished roadway grade or other identifiable ground or permanent roadway/project feature. Any electrical installation work for street lighting or power connection shall be located relative to construction centerline/monument line or relative to back of curb and gutter (whichever is closer) including the depth of the facility.

(3) Removals: Dimensions and/or other volumetric descriptions and station/offset location of all removed items.

(4) Curb/Gutter/Valley Gutter: Beginning and ending station/offset location of straight curb /gutter/valley gutter runs relative to construction centerline/monument line; flow line elevation; and station/offset location of PC's and PT's.

(5) Driveway/Alley Entrances: Beginning and ending station/offset including driveway wings.

(6) Sidewalks and Path: Beginning and ending station/offset and any other modification necessary to incorporate or avoid existing facility conflicts.

(7) Sidewalk Ramp: Curvilinear distance deviations measured along gutter flow line from curb and gutter PC/PT or other shifts/adjustments to properly align with pedestrian crosswalks or other modifications necessary to incorporate/avoid existing facility conflicts.

(8) Median Island: Beginning and ending station/offset of median and straight run median widths measured from back of curbs; beginning and ending station/offset of decorative median paving; bullnose radiuses; and measured widths of median in transition sections from back of curbs in 25 foot minimum increments or to bullnose radius PT/PC (whichever is less).

(9) Roadway Pavement: Beginning/ending station and measured completed roadway width from edge of pavement to edge of pavement in straight roadway sections; measured completed roadway width perpendicular to construction centerline/monument line from both edges of pavement to construction centerline/monument line in curved roadway sections; and actual sawcut removal/tie-in to existing pavement locations.

(10) Pipelines: When pipeline parallels the construction centerline/monument line, verify or correct the perpendicular distance between the two. When pipeline angles relative to the construction centerline/monument line or is in a curved roadway section, as-built measured straight pipe run distances, angle points, changes in size, fitting/tee locations tied-in with practical known construction centerline/monument line location or other easily verifiable permanent point. Distances between fittings are from fitting centerline. Fire hydrant and catch basin branch lines are to be shown in profile including pipeline bends and collars. All project drawing pipeline cross sections and profiles are to be corrected to reflect modified pipeline locations/alignments. Station and offset locations for sewer line laterals are from main line to ROW line with beginning/ending line location tied to a monument or to a property corner. Locations where waterlines cross curb and gutter are to be noted by station. Where waterlines run parallel to

curb and gutter, note locations relative to back of curb or construction centerline/monument line (whichever is closer) including angle points and elevation.

(11) Manhole/ Catch Basin/ Valve/ Cleanout/ Tee: Beginning/ ending station and offset. Stationing is to commence at the downstream manhole (or as depicted on drawings) with location of tap/wye/tee/lateral locations clearly noted.

(12) Landscaping and Irrigation: Note beginning and ending station/ offset/ elevation including size of PVC; sleeve/ pull-box/ electrical-valve/ water-service/ tap/ meter/ bubbler/ drip-line locations.

(13) Roadway Striping/Signage: Any relocated sign shall be located by station and offset from construction centerline/monument line. Any change in roadway marking is to be noted on as-builts.

(14) Box Culverts and Other Structures: Station/offset distances/centerline-bearing line/finished elevations of all structure elements.

(15) Multi-Use Path Lighting: Light poles are to be located by station and offset from construction centerline/monument line.

(16) Linear Items: Fences, walls, ditches, etc. should be located by station/offset and tied in with a permanent point.

The as-built drawings shall be certified by an Arizona Registered Land Surveyor. As-built drawings shall be delivered to the City of Scottsdale Contract Administrator within thirty (30) calendar days from the date of final inspection and acceptance by the City of the work completed under this contract. Work under this bid item includes transfer of all information noted by the contractor on the on-site as-built drawing set described above under Bid Item number 105801. Final payment will be made only after submitted as-builts are accepted by the City (see “Measurement and Payment” below).

Measurement and Payment: Construction Surveying As-Builts will be measured as a single complete item of work and paid at the lump sum price indicated on the Schedule of Bid Items, which amount shall be considered full compensation for the work as described herein and required to clearly indicate all specific as-built information.

Payment for survey work under this bid item will be made when the City accepts the final as-built mylars. Should the contractor fail to submit acceptable as-builts within the maximum 30 calendar day period noted above, the City will execute a deduct change order for 10% of the Construction Survey As-Built bid item total from the contract (or $2,500.00, whichever is greater) for every 5 working day period that the contractor fails to provide acceptable as-builts (not including City review time). If the contractor fails to submit acceptable as-builts after the 3rd submittal, the City will deduct 50% from the Construction Survey As-Built bid item total from the contract (or $10,000.00, whichever is greater) and execute a final change order noting the City’s justification for penalizing the contractor for unacceptable as-built preparation.

ITEM 205001 ROADWAY EXCAVATION:

Description: Delete text in MAG Section 205.1 and insert the following:

Roadway excavation shall consist of the excavation involved in the grading and construction of the multi-use path, access ramps, drainage basins, channels and berms, except structure excavation, trench excavation and any other excavation separately designated.

ITEM 220401 PLAIN RIPRAP:

Description

The work under this section shall consist of furnishing all materials and constructing bank protection in accordance with the details shown on the plans and the requirements of these specifications.

Rock:

(A) General:

When source of rock is designated, it shall be the contractor's responsibility to negotiate for the material, obtain the right-of-way and pay all royalties and damages.

The source from which the stone will be obtained shall be selected well in advance of the time when it will be required in the work. The acceptability of the stone will be determined by the Engineer. If testing is required, suitable samples of stone shall be taken in the presence of the Engineer at least 25 days in advance of the time when its use is expected to begin. The approval of some rock fragments from a particular quarry site shall not be construed as constituting the approval of all rock fragments taken from that quarry.

Rock shall be angular. Flat or needle shapes will not be accepted.

(B) Riprap

Materials: Section 703 of the Standard Specification is modified to add:

The gradation of the riprap shall be based on the median rock diameter, identified as the D_{50} Class and as shown on the project plans.

The contractor shall provide two samples of rock of at least 1 cubic yard each, meeting the gradation specified on the project plans. The sample at the construction site may be a part of the finished riprap covering. The other sample shall be provided at the quarry. These samples shall be used as a frequent reference for judging the gradation of the riprap supplied. Any difference of opinion between the Engineer and the Contractor shall be resolved by dumping and checking the gradation of two random truck loads of stone.

Mechanical equipment, a sorting site, and labor needed to assist in checking gradation shall be provided by the contractor at no additional cost to the Department.

Filter fabric shall conform to Sect. 1014-5 Bank Protection Fabric of the ADOT Standard Specifications.

Construction Requirements

Areas on which bank protection is to be constructed shall be cleared, grubbed, and excavated or backfilled in accordance with the requirements of the appropriate sections of PART 200 of the MAG Specifications to produce a ground surface in conformance with the lines and grades shown on the project plans or established by the Engineer.

The rock shall be placed to its specified thickness in one operation and in a manner which will produce a reasonably well graded mass with a minimum amount of voids and with the larger rock evenly distributed throughout the mass.

No method of placing the rock that will cause segregation will be allowed. Hand placing or rearranging of individual rock may be necessary to obtain the specified results.

The contractor shall use a pre-emergent treatment prior to placing riprap.

Measurement

Riprap will be measured by the cubic yard of protection constructed by computing the surface area measured parallel to the protection surface and the total thickness of the riprap measured normal to the protection surface.

No separate measurement will be made for filter fabric.

Payment

The accepted quantities of riprap, measured as provided above, will be paid for at the contract unit price per cubic yard, which price shall be full compensation for the work, complete in place, including excavation, preparing the ground area, furnishing and installing the rock, supplying and installing the filter fabric; and backfilling as required.

ITEM 220703 RIPRAP BLANKET, WIRE TIED:

Description

The work under this section shall consist of both the design of and the furnishing of all materials, equipment and labor to construct riprap blankets, wire tied. All work shall conform to the details shown on the plans and the requirements of these specifications.

Riprap blanket shop drawings shall be submitted to the Engineer for review. Shop drawings shall bear the seal and signature of a licensed Professional Civil or Structural Engineer, registered in the State of Arizona, and with experience in this type of work.

A riprap blanket, wire tied is a structure manufactured from 8x10 hexagonal double twisted wire mesh type as per ASTM A975-97. They are filled with stones and closed using lids at the project site. The wire mesh used shall be heavily zinc coated soft temper steel.

Riprap blankets are divided into cells by means of diaphragms. Cells shall be approximately 3 ft wide by 9 ft long. In order to reinforce the structure, all edges are selvedged with a wire of greater diameter.

An example of the Riprap Blankets, Wire Tied may be seen at the Phase I - Pedestrian Tunnel approaches under McDowell Road. The Phase I blankets will be used as a benchmark for aesthetic acceptance of the Phase II blankets.

Materials:

Wire (Zinc Coated:)
All tests on wire must be performed prior to manufacturing the mesh. All wire shall comply with ASTM A975-97, style 1 coating, galvanized steel wire. Wire used for the manufacture of the riprap blanket and the lacing wire, shall have a maximum tensile strength of 75,000 psi (515 MPa) as per ASTM A641/A641-03, soft temper steel.

Woven Wire Mesh Type 8x10:
The mesh and wire characteristics shall be in accordance with ASTM A975-97 Table 1, Mesh type 8x10. The nominal mesh opening, D=3.25 in (83 mm). The minimum mesh properties for strength and flexibility shall be in accordance with the following:

- *Mesh Tensile Strength* shall be a minimum of 3500 lb/ft (5.1 kN/m) when tested in accordance with ASTM A975-97 section 13.1.1.
- *Punch Test* resistance shall be a minimum of 6000 lb (26.7 kN) when tested in compliance with ASTM A975-97 section 13.1.4.
- *Connection to Selvedges* shall be 1400 lb/ft (20.4 kN/m) when tested in accordance with ASTM A975-97.

STANDARD MESH WIRE TABLE			
Type	Nominal Dimension D in (mm)	Tolerance	Internal Wire Dia in (mm)
8x10/ZN	3.25 (83)	±10%	0.120 (3.05)

P.V.C. (Polyvinyl Chloride) wire coating shall not be provided.

The contractor shall submit 1 cubic yard of rock to the City of Scottsdale Inspector for approval of color.

The gradation of the rock shall be based on the suppliers engineering design recommendation, but is generally between 4 in minimum to 8 in maximum.

Rock shall be sound and durable, free from clay or shale seams, cracks or other structural defects. The Bulk Specific Gravity (SSD) shall be determined in accordance with the requirements of AASHTO T 85 and shall be a minimum of 2.4. Rock used to construct riprap blankets, wire tied shall be rounded in shape. A minimum of two layers of rock shall be required when filling the baskets. Rock shall have at least dimension not less than one-third of its greatest dimension and a gradation in reasonable conformity with that shown herein for the various types of bank protection. Larger

rocks shall be located on the bottom of the basket with smaller rocks located closer to the exposed surface. Control of the gradation will be by visual inspection.

Construction Methods:

The maximum allowable length per blanket shall be 99 ft. The maximum allowable width shall be 9 ft. The minimum height of the blanket shall be 1 ft. The maximum allowable number of cells per blanket shall be 33. The exposed top surface of the blanket shall be flush with the finished elevation of the decomposed granite. Each cell shall not exceed 3 ft wide by 9 ft long.

Blankets shall be manufactured with all components mechanically connected at the production facility with the exception of the lid, which is produced separately from the base. The base, sides and ends of the blanket shall be woven into a single unit. The diaphragms shall be connected to the base in the factory so that no additional tying is necessary at the jobsite. All perimeter edges of the mesh forming the base and sides shall be selvedged with selvedge wire.

Assembly and installation of the riprap blankets shall be per the manufacturer's recommendations.

Some manual hand placement of the rock will be required to minimize the voids.

Cells in any row shall be filled in stages so that local deformation is avoided. Baskets should be overfilled 1 to 2 inches to allow for settlement of the rock.

Measurement:

Riprap blanket, wire tied will be measured by the square yard.

Payment:

The accepted quantities of riprap blanket, wire tied, measured as provided above, will be paid for at the contract unit price per cubic yard, which price shall be full compensation for the work, complete in place, including excavation; preparing the ground area; furnishing and installing the blankets and rock; and backfilling as required.

ITEM 301201 SUBGRADE PREPARATION:

340.3 Construction Methods: of the Standard Specifications is modified as follows:

The subgrade for the concrete Multi-Use Path shall be compacted to a relative density of 95% in accordance with Section 301 Subgrade Preparation of the Standard Specifications.

The subgrade for the SRP canal access road shall be compacted to a relative density of 95% in accordance with Section 301 Subgrade Preparation of the Standard Specifications. The canal access road limits shall be measured 20-ft from the top of bank of the Crosscut Canal.

Compaction for areas outside the path itself shall conform to MAG Sections 205 and 211 of the Standard Specifications.

Unsuitable material encountered during grading or excavation activities, shall be handled per MAG Section 205.2 of the Standard Specifications.

Measurement and Payment: Subgrade preparation for the Multi-Use Path shall be measured and paid by the square yard as provided in the bidding schedule.

No direct measurement or payment will be made for Subgrade Preparation outside the limits of the multi-use path. The cost being considered included in other elements of work.

ITEM 324108 8" PCC PAVEMENT, (CLASS A):
ITEM 324121 PCC PAVEMENT (8" THICK) (CLASS A) (COLORED):

General: Comply with MAG Section 324, except as modified herein.

An example of the colored concrete to be use may be seen at the Phase I shade structure, which is located along the Crosscut Canal at Oak Street, east of 66th Street.

Materials:

Concrete designated as Colored Concrete on the project plans shall be colored using one of the following manufacturers or an approved equal:

Davis Colors:
Integral Color
Color: Terra Cotta 10134
Dosage Rate: 4 lbs per sack of cement. Contact the manufacturer for liquid dosage rate.
www.daviscolors.com

Scofield
CHROMIX Admixtures
Color: Sunbaked Clay 5238
Dosage Rate: To be supplied by Manufacturer
www.scofield.com

Solomon Colors
Integral Color
Color: Terra Cotta 413
Dosage Rate: To be supplied by Manufacturer
www.solomoncolors.com

Submit product data and manufacturer's instructions for:
1. Color additives.
2. Curing compounds.

The contractor shall submit sample chip of specified color indicating color additive number and required dosage rate. Samples indicate general color and may vary from concrete finished in field according to Specifications.

Color Additives: Comply with manufacturer's instructions. Deliver color additives in original, unopened packaging. Store in dry conditions. Color additives shall contain pure, concentrated mineral pigments specially processed for mixing into concrete and complying with ASTM C979.

Mix in color additives in accordance with manufacturer's instructions. Mix until color additives are uniformly dispersed throughout mixture and disintegrating bags, if used, have disintegrated.

Dosage rate of color additive shall not exceed 10 percent of weight of cementitious materials in mix.

Curing Compound for Colored Concrete shall comply with ASTM C309 and be approved by color additive manufacturer for use with colored concrete. Apply curing compound for colored concrete in accordance with manufacturer's instructions. Apply curing compound at consistent time for each pour to maintain close color consistency.

Dowels shall conform to requirements of Section 401 Portland Cement Concrete Pavement of the ADOT Standard Specifications.

Construction Methods

The contractor shall prepare a field sample for approval by the Engineer prior to starting work on colored concrete items. Sample shall be 4 feet x 4 feet in area and shall be used to demonstrate method for obtaining consistent visual appearance, including materials, workmanship and curing method to be used throughout the project. The field sample shall be used as a quality assurance check and shall be removed upon completion of colored concrete work.

Protect adjacent finished surfaces from splatters.

Do not add water to colored concrete at job site, fog or spray surface with water, or put into pumps or onto tools or brooms.

Do not apply color additives meant for integral coloring to surface of concrete.

Measurement and Payment:

This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

No separate measurement or payment will be made for supplying and installing dowels.

ITEM 350001 THRU 350633 REMOVAL OF EXISTING IMPROVEMENTS:

General: Comply with MAG Section 350 except as modified herein.

Miscellaneous Removal and Other Work: Modify Section 350.3 and as follows:

The work under this section shall consist of removing and disposing of any obstacle to construction that is not included in any other bid item, whether it is shown on the plans or not, unless it is specifically called out on the plans to be removed or relocated by other agencies.

This work shall also include, but not be limited to, the following:

The removal of the existing concrete pavements and base material necessary to construct the multi-use path.

The removal of existing landscape sprinkler systems, bubblers, faucets, control wires and backflow preventers within those areas identified for removal of landscaping and irrigation. This work shall include coordination with property owners to identify and coordinate modifications to keep their existing system layout operational or restore it to a properly operational system. The Contractor shall notify the property owner of any impact to their irrigation system. The irrigation system shall not be inoperable for more than 48 hours.

Salvage and Disposal: Salvaged items shall be removed with care and delivered at no additional cost, by the Contractor, to the City's Corporation Yard at 9191 E. San Salvador, Scottsdale, AZ.

Items identified for salvage include existing traffic signs.

All other items shall become the property of the Contractor and shall be legally disposed of by the Contractor. The disposal of all waste materials removed under this item shall be the responsibility of the Contractor. The disposal site shall be approved by the City. Remove tree and landscape debris from the site the same day as demolition.

Measurement: Removal of concrete pavement, concrete sidewalk, and or other paved surfaces will be measured, by the square yard, of surface area. Removal of temporary pavement, placed by the Contractor, shall be a non-pay item.

Removal of miscellaneous items not described herein will be measured in a lump sum basis or as indicated on the Schedule of Bid Items and shall include removing and disposing of any obstacle to construction that is not included in any other bid item, whether it is shown on the plans or not, unless it is specifically called out on the plans to be removed or relocated by other agencies.

Payment: Delete text in Section 350.4 and insert the following:

Payment for itemized removals will be per the bid prices indicated on the Schedule of Bid Items, which amount will be considered full compensation for that work complete in place.

Payment for Miscellaneous Removal and Other Work shall be paid at the lump sum basis amount or as indicated on the Schedule of Bid Items and shall be considered full compensation for that work complete in place.

Existing improvements removed by the contractor for the convenience of the contractor during work shall be done as described under Section 202 of the Specifications. All items removed or disturbed shall be replaced in a condition equal to or better than prior to construction of the work. No payment will be made for this work.

ITEM 350710 REMOVE (& SALVAGE EXISTING ELECTRICAL SERVICE CABINET):

General: Comply with MAG Section 350 except as modified herein.

This work shall include, but not be limited to, the following: furnishing all labor, equipment and materials necessary to remove and salvage the existing electrical service cabinet as shown on the project plans.

The contractor shall not remove any portion of the existing cabinet until the new electrical service cabinet is ready for the power to be switched over. The contractor shall coordinate with APS and the City of Scottsdale for the de-energization of the existing cabinet.

The existing pull box adjacent to the meter shall be removed by APS.

Conduit and conductors shall be removed only to the nearest pull box, either to pull boxes to remain in place or new pull boxes to be installed.

Salvage: Salvaged cabinet shall be removed with care and delivered at no additional cost, by the Contractor, to the City's Corporation Yard at 9191 E. San Salvador, Scottsdale, AZ.

Measurement and Payment: The accepted quantities of ITEM 350710 REMOVE (& SALVAGE EXISTING ELECTRICAL SERVICE CABINET) will be measured and paid for as a single lump sum, which shall be full compensation for the work described and specified herein and on the project plans, including salvaging the cabinet and all hardware, excavation and backfill for the removal of the cabinet foundation, removal of existing conduits, conductors, pull boxes, and incidentals necessary to complete the work.

ITEM 350711 REMOVE (CATCH BASIN):

General: Comply with MAG Section 350 except as modified herein.

This work shall include, but not be limited to, the following: furnishing all labor, equipment and materials necessary to remove a portion of an existing catch basin as shown on the project plans.

Measurement: REMOVE (CATCH BASIN) will be measured per each and shall include, but not limited to, the removal of the catch basin frame and grate, removal of the catch basin walls to the depth show on the plans, cleaning of existing reinforcing steel and the removal of any debris that falls into the bottom of the catch basin.

Payment: Payment for REMOVE (CATCH BASIN) shall be per each, which amount will be considered full compensation for that work described herein, complete in place.

ITEM 350713 REMOVE (BRIDGE RETAINING WALL):

General: Comply with MAG Section 350 except as modified herein.

This work shall include, but not be limited to, the following: furnishing all labor, equipment and materials necessary to remove a portion of the existing Indian School bridge retaining wall as shown on the project plans. The contractor shall remove and salvage the existing metal bridge railing.

Salvage: The salvaged bridge railing shall be delivered the City of Scottsdale Corporation Yard at 9191 E., San Salvador, Scottsdale, AZ.

Measurement: REMOVE (BRIDGE RETAINING WALL) will be measured per lineal foot and shall include, but not limited to, the removal of the metal bridge railing, removal of hardware and filling of any voids left by posts or hardware, backfilling the void left by the removed retaining wall as defined in the project plans and delivering the salvaged metal bridge railing to the City of Scottsdale.

Payment: Payment for REMOVE (BRIDGE RETAINING WALL) shall be per lineal foot, which amount will be considered full compensation for that work described herein, complete in place.

ITEM 350716 REMOVE (RIPRAP):

General: Comply with MAG Section 350 except as modified herein.

This work shall include, but not be limited to, the following:

The removal of dumped riprap and filter fabric as shown on the project plans.

Measurement: REMOVE (RIPRAP) will be measured per cubic yard by computing the surface area and the total thickness of the riprap.

Payment: Payment for REMOVE (RIPRAP) shall be per cubic yard, which amount will be considered full compensation for that work described herein, complete in place.

ITEM 401001 TRAFFIC CONTROL:

General: Conform to MAG Section 401, City of Scottsdale Section 401, City of Phoenix Traffic Barricade Manual and the Manual of Uniform Traffic Control Devices, except as modified herein.

The Contractor shall close the existing pathway within the project boundaries during construction. The contractor shall provide all necessary signing for the pathway closure. This signing plan for the closure shall be submitted to the Engineer for approval at least 2-weeks prior to any closure.

See Pedestrian Access requirements under Section 1 of these special provisions.

The contractor shall coordinate a traffic control plan with the Engineer and the City of Scottsdale.

No work shall begin prior to Engineer's approval of the proposed Traffic Control Plan from the contractor.

The contractor shall not perform construction activities that disrupt traffic between the hours of 7:00 AM to 9:00 AM and 3:00 PM to 5:00 PM.

The contractor shall notify residents and businesses within the project area. These actions shall occur a minimum of 14 calendar days prior to the start of construction to notify the public of construction-related restrictions.

Construction signs shall not be displayed to traffic for more than 24 hours prior to the actual start of construction. Signs shall be removed within 24 hours after completion of the construction.

Plan preparation, signing and public notification shall be considered incidental to other items of work and no specific measurement or payment will be made.

Description: Delete text in MAG Section 401.1 and insert the following:

This bid item is for all barricades, signs, lights, off-duty police officers, flagmen, etc. needed to keep traffic moving at a minimum of one 10 foot lane in each direction through the work site. All traffic control signing, haul routes and barricading plans will be submitted to the Inspector for approval prior to starting the work and all contractor changes to the plans will be approved by the City prior to implementation.

The Contractor shall notify the Inspector seven days in advance of the time work will be started in areas requiring the rerouting of traffic, traffic lane striping and removal of street signs. The foregoing shall apply to progressive modifications of traffic routing within an area in which work is in progress.

Traffic Control Devices: Append MAG Section 401.2 with the following:

All existing signs in conflict with the construction signs shall be removed, covered with plywood, or relocated.

Sign mounting height shall be 7 feet. The measurement shall be from the bottom of the sign to the top of curb.

All regulatory and warning signs shall have flags and lights displayed.

All Type II Barricades, Type III Barricades, and vertical panels shall be equipped with steady burning lights.

All orange construction signs shall use high reflectivity sheeting. All other signs shall use standard reflective sheeting. All signs to be used on the job during periods of darkness shall be reflectorized.

Traffic Control Measures: Append Section 401.4 as follows:

Whenever construction operations create a condition hazardous to the public, the contractor shall furnish such flagmen and guards as are necessary to give adequate warning to the public of any dangerous conditions.

Flagmen and guards, while on duty, and safety devices shall conform to applicable City, County and State requirements. It is the Contractor's responsibility to inform the Engineer of hazardous conditions immediately.

Should the Contractor appear to be neglectful or negligent in furnishing adequate warning and protection measures, the Engineer may direct attention to the existence of a hazard and the necessary warning and protective measures shall be furnished and installed within 6 hours by the Contractor without additional cost to the City.

General Traffic Regulations: Contractor shall comply to MAG Section 401.5 as supplemented by City of Scottsdale section 401 and append as follows:

Delete City of Scottsdale reference to lane closures between the hours of 7 to 9 a.m. and 4 to 6 p.m.. One lane of traffic in each direction must be provided at all times unless advance approval in writing is obtained from the City of Scottsdale Traffic Engineering Director.

Approach speed limits and speed limits within the construction area shall be determined by the City of Scottsdale Traffic Engineering Department.

Measurement: Delete text of MAG Section 401.6 and insert the following:

Measurement of all traffic control work as described herein and as required for the project will be measured on a lump sum basis.

Payment: Delete text of MAG Section 401.7 and insert the following:

Payment for all traffic control work including the use of off-duty uniformed police officers as described above will be paid for at the lump sum amount indicated on the Schedule of Bid Items, which payment will be considered full compensation for the work complete as described herein and on the plans, and as modified or instructed on-site by City staff. Adjustments to approved traffic control plans, barricading or signing to accommodate specific on-site needs at the sole discretion of the City is included in the lump sum bid item payment.

ITEM 402111 WHITE STRIPE PAINT 4" EQUIV:
ITEM 402112 YELLOW STRIPE PAINT 4" EQUIV:

General: The work under this item will comply with City of Scottsdale Supplemental Specification Section 402, except as modified herein.

All pavement markings for the multi-use path shall be installed with reflective glass beads (spheres). The beads shall be installed on the wet paint at a minimum rate of 6 pounds to each gallon of paint.

ITEM 402131 PAVEMENT LEGEND AND SYMBOL (PAINT):

General: The work under this item will comply with City of Scottsdale Supplemental Specification Section 402 except as modified herein.

402.2 PAVEMENT MARKINGS: is modified to add:

Paint for pavement symbols shall be as shown on the project plans and shall conform to the requirements for permanent paint as set forth in the ADOT Standard Specification Section 708. Glass beads shall be applied to all pavement symbols.

ITEM 403010 ELECTRICAL CONDUIT (2") (COX SUPPLIED):

General: The work under this item shall consist of furnishing all, tools, equipment and labor necessary for installing two 2" diameter electrical conduits supplied by COX, as shown on the project plans.

The contractor shall coordinate this element of work with COX. COX requires at least a two (2) week notice to schedule the delivery of the conduit to the job site. The contractor shall contact Travis Curry at 623-328-3519 for coordination of the work and delivery of materials.

The conduits shall be installed in the same trench as the path lighting, except as shown on the plans.

Measurement and Payment:

This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

ITEM 403011 ELECTRICAL CONDUIT (2 1/2") (DB120):

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for installing a new 2 1/2" electrical conduit for SRP as shown on the project plans.

The work under this item shall comply with all SRP requirements for electrical conduit materials and installation. See Appendix C for the SRP Design layout.

Measurement and Payment:

This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

ITEM 403034 CONDUIT IN BRIDGE (2") (PVC):

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for installing Pipe Sleeve Run Numbers 7, 8 and 9 as shown on the project plans.

The work under this item will comply with the Arizona Department of Transportation Standard Specification Section 732, except as modified herein.

Measurement and Payment:

This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

ITEM 403706 MISCELLANEOUS WORK (LIGHTING):

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for installing path lighting as shown on the project plans and as noted in Appendix B.

Examples of the path lighting to be use may be seen near the Phase I shade structure, which is located along the Crosscut Canal at Oak Street, east of 66th Street. An example of the lighting controller is located approximately 300-ft North of the Phase I shade structure.
When shown on the plans, multiple lighting circuits shall be installed in the same conduit.

Measurement and Payment: The accepted quantities of ITEM 403706 MISCELLANEOUS WORK (LIGHTING) will be paid for at the contract unit price per each light, which shall be full compensation for the work described and specified herein and on the project plans, including all hardware, excavation, backfill, foundations, conduits, conductors, pull boxes, bedding, control stations and incidentals necessary to complete the work.

ITEM 418102 REMOVABLE BOLLARD:

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for constructing a removable bollard including all excavation, backfill, concrete, painting and locking mechanism, in accordance with Detail "A" as shown on the project plans and the requirements of Sections 604 and 908 of the ADOT Standard Specifications.

Materials: The concrete shall be Class S 3000 PSI Concrete conforming to Section 1006 of the ADOT Standard Specifications.

Bollard shall consist of a 5-inch diameter galvanized steel pipe with shims that fit inside a 6-inch diameter galvanized steel pipe sleeve as shown on detail "A" of the project plans.

The steel for the bollard shall be in accordance with Section 604 of the ADOT Standard Specifications and sized per the plans and details.

Locks and keys shall be furnished by SRP. The contractor shall contact Paula Atkins at 602-236-8467 for locks.

Construction Method: Prior to placing the concrete, the Contractor shall scarify the top 12 inches of existing soil and re-compact to 90% at -1% to +3% optimum moisture content determined in accordance with the ADOT Material Testing Manual.

Exposed surface of bollard pipe and cap shall be painted per project plan sheet "Signing And Marking General Notes".

Measurement: REMOVABLE BOLLARD will be measured per each unit furnished and installed including bollard sleeve, steel bollard, locking mechanism, grounding and all apparent work for a complete and functioning removable bollard as detailed on the plans.

Payment: The accepted quantities of REMOVABLE BOLLARD will be paid for at the contract unit price per each, which shall be full compensation for the work described and specified herein and on the project plans, including all hardware, excavation, backfill, concrete footing, painting and incidentals necessary to complete the work.

No measurement or direct payment will be made for excavation, footing, or hardware and shall be considered included in the cost of the removable bollard and considered incidental to this work.

ITEM 430001 DECOMPOSED GRANITE, COS 2620 (3/4")(2" DEPTH):
ITEM 430201 SHRUBS, 1 GAL. (COS 2620):
ITEM 430202 SHRUBS, 5 GAL. (COS 2620):

General: Conform to City of Scottsdale Supplement to MAG Specifications and modify to add the following:

Decomposed Granite: Replace text from Section 430.11.7 Mulches to read as follows:

E. Mineral Mulch: Hard, durable stone, washed free of loam, sand, clay, and other foreign substances, of the following type, size, range, and color:

1. Type: Decomposed granite.
2. Size Range: ¾ inch (19 mm) maximum, ¼ inch (6 mm) minimum.
3. Color: Express Brown or equal.

Decomposed Granite: Replace text from Section 430.12.10 Mulching to read as follows:

B. Granite: Apply the following average thicknesses of granite and finish level with adjacent finish grades. Do not place mulch against trunks or stems.

1. Thickness: >2 inches (50 mm) where shown on plans.

Decomposed Granite: Add the following text to Section 430.12.10 Mulching:

D. The Contractor shall confirm that a sufficient quantity is available so that the entire area will be of the same composition and appearance.

E. Spread decomposed granite evenly over all areas as shown on plans. Decomposed granite shall extend under all shrubs and groundcovers to the depth specified.

F. Installed granite shall be raked to remove any irregularities. Unless otherwise specified in the drawings, granite finish grade shall be one inch below adjacent top of curb or sidewalk surfaces.

Native Trees: The plans indicate protected native species which shall be protected in place.

The contractor shall maintain viability of the existing landscape within the project.

Do not disturb soil within branch spread of existing trees or shrubs that are to remain. It is recommended to stake and flag around these plants.

Measurement and Payment: Delete text in Section 430.10 and insert the following:

This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

Costs of work to restore existing landscaping that is disturbed by any work under this project is included in these bid items.

ITEM 440101 CONTROL CABINET WITH CLOCK:
ITEM 440201 IRRIGATION PIPING (MAINLINE):
ITEM 440202 IRRIGATION PIPING (LATERALS):
ITEM 440301 IRRIGATION CONTROL VALVES (ELECTRIC):
ITEM 440302 IRRIGATION QUICK-COUPLER VALVE:
ITEM 440341 IRRIGATION GATE VALVES:
ITEM 440361 IRRIGATION FLUSH VALVE:
ITEM 440501 IRRIGATION EMITTER (SINGLE):

General: Conform to City of Scottsdale Supplemental Specifications to MAG and modify to add the following:

The Contractor shall be responsible for contacting City of Scottsdale Development Services and arranging for the water meter to be set and initiating the account. Fees for the water meter will be pre-paid by the City.

The plans indicate a detailed layout of irrigation lines, laterals, and emitter or bubbler locations. The Contractor shall follow the intent of the plans layout and shall review and get approval from the City of Scottsdale Inspector for any requested changes.

The sprinkler system shall be constructed using the emitters, bubblers, valves, piping, fittings, controllers, wiring, etc., of sizes and types as shown on the drawings and as called for in these specifications. The system shall be constructed to grades and conform to areas and locations as shown on the drawings.

Measurement and Payment: Delete text of Section 440.8 and insert the following:

This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

Costs of work to restore existing irrigation systems that are disturbed by any other work done under this project are included in these bid items, unless otherwise shown on the plans.

ITEM 440930 IRRIGATION RESTORATION:

General: Conform to City of Scottsdale Supplemental Specifications to MAG and modify to add the following:

The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for restoring existing irrigation systems that are in conflict with planned construction and not already covered by the irrigation plans. The contractor is responsible for removing any existing irrigation control boxes, valves, pipes, backfilling and compacting materials into the void that is left by the removal of any of these items. New irrigation items shall be installed prior to the removal of any portion of an existing irrigation system.

Materials:

All irrigation items shall be replaced in kind.

Measurement: IRRIGATION RESTORATION will be measured as a single lump sum and shall include, but not limited to, the removal of irrigation control boxes, valves, pipes and backfilling the void left by the removed irritation items.

Payment: Payment for IRRIGATION RESTORATION shall be paid per lump sum and shall be considered full compensation for that work described herein, complete in place.

ITEM 502054 DRILLED SHAFT FOUNDATION (36" DIAMETER, PED BRIDGE)

General: Conform to ADOT Standard Specifications Section 609.

ITEM 505101 CATCH BASIN (DETAIL DA):
ITEM 505102 CATCH BASIN (REINFORCED CONCRETE PLUG) (DETAIL DA):

General: Comply with MAG Section 505, except as modified herein.

Structure Excavation and backfill shall comply with MAG Section 206.

Measurement and Payment: Delete text of Sections 505.11 and 505.12 and insert the following:

This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, stay-in-place forms, structure excavation, structure backfill and incidentals shown on the plans that are not covered by any other bid item.

ITEM 505200 BRIDGE PEDESTRIAN RAIL (ADOT STD B-22.40 & B-22.41):

General: The work under this item shall conform to the requirements of Section 601 of the ADOT Standard Specifications and to the details shown on the project plans.

ITEM 505300 PEDESTRIAN BRIDGE (MUP PED STEEL TRUSS SUPERSTRUCTURE):

Description: The work under this item shall consist of furnishing all materials, equipment and labor to construct the fully engineered steel truss superstructure for the Crosscut Canal Multi-Use Path Phase II Pedestrian Bridge, including the bridge superstructure designs. The work also includes the concrete bridge deck, approach slab, all bearings, anchor bolts, abutments, reinforcing steel, structure excavation, structural backfill and steel truss span per the requirements of sheets S-02.01 through S-02.08 of the project plans. All work shall conform to the requirements of the ADOT Standard Specifications, except as modified by this technical specification. The steel truss spans shall be designed, furnished and installed by the contractor.

The bridge shall have one steel truss superstructure span of 49'-7" feet measured from begin of bridge to end of bridge. A clear width of 14'-0" shall be provided and shall be measured from the inside face of structural elements at the deck level. The finished grade of the deck shall be controlled by the Multi-Use Path Profile Grade Line and a minimum vertical clearance of 1'-6" shall be provided over the top of the Salt River Project (SRP) canal lining.

The steel truss superstructure type shall be designed as depicted on the project plans.

The Steel Pedestrian Side Treatment shall consist of vertical members attached to the exterior side of the top and bottom chord per the project plans.

Materials:

Structural Steel:

Structural steel tubing shall at a minimum conform to the requirements of ASTM A500, Grade B with yield stress (Fy) greater than 46,000 psi. Other structural steel shall conform to ASTM A 36 or A709 Grade 36. Bolts for field splices shall conform to the requirements of AASHTO M-164.

Concrete:

Portland cement concrete for the deck of the truss span shall conform to the requirements of Section 1006 for Class "S" concrete (f'c = 4500 psi), except that lightweight aggregate conforming to AASHTO M195 may be used. Lightweight concrete shall have an average air-dry 28 day unit weight of the concrete of less than or equal to 115 pounds per cubic foot. Natural weight sand or a combination of natural and lightweight fine aggregate may be used. Trial batches as specified in AASHTO M195 shall be required to establish acceptance of mix proportions.

Paint:

All metal surfaces for the MUP Pedestrian Bridge steel superstructure shall be painted at the direction of the City of Scottsdale.

Stay-in-place Metal Deck Form:

Permanent stay-in-place metal deck forms may be used. Permanent stay-in-place forming shall be designed by the truss manufacturer and shall consist of a minimum of 20 gage galvanized floor deck. The deck form shall be designed to limit the deflection under the weight of the forms, reinforcement, and plastic concrete of 1/240 of the form span or ½ inch, whichever is less. The design span of the forms shall be considered the clear span plus two inches parallel to the form flutes. Design the forms for a maximum allowable working stress of 0.725 of the specified minimum yield strength of the material furnished, but not to exceed 36,000 psi. Provide a design capable of carrying the dead load of the forms and concrete plus a minimum of 50 pounds per square foot construction superimposed live load. The physical design properties for the forms shall be determined in accordance with the requirements of the latest published edition of AISI Specifications for the Design of Cold Formed Steel Structural Members.

Consideration of composite action between the deck and the stay in place form for support of live loading is not allowed. Provide all reinforcement with a minimum of 1" concrete cover to the steel decking. Provide a minimum of 2 ½" concrete cover for the top mat of steel reinforcement. Do not consider the permanent bridge deck form as lateral bracing for compression flanges of supporting structure members. Secure the forms to the supporting members by means other than welding. The Engineer will observe the Contractor's methods of construction during all phases of the construction of the bridge deck slab, including the installation of the metal forms, location and fastening of the reinforcement, concrete placement and vibration and finishing of the deck. After the deck concrete has been in place for two days, test for soundness and bonding of the forms by sounding with a hammer as directed by the Engineer. Should the Engineer determine that the procedures used

during placement of the concrete warrant inspection of the underside of the deck or the sounding discloses areas of doubtful soundness, remove at least one section of the forms in each span for visual inspection after the concrete has attained a minimum of 0.75 times the design compressive strength. Replace all removed forms to the satisfaction of the Engineer.

Construction Requirements:

Design Criteria:

The truss spans shall be designed in conformance with the AASHTO Standard Specifications for Highway Bridges, 17th Edition, 2002, all provisions of the AASHTO Guide Specifications for the Design of Pedestrian Bridge, 1997 and applicable provisions of the ADOT Bridge Practice Guidelines, current edition. Service Load Design Method shall be used.

The truss shall be designed for a uniform pedestrian live load or vehicular load as follows (the maintenance vehicle live load shall not be placed in combination with the pedestrian live load):

Main Members: Main supporting members (girders, trusses and arches) shall be designed for a pedestrian live load of 85 pounds per square foot of bridge walkway area. The pedestrian live load shall be applied to those areas of the walkway so as to produce the maximum stress in the member being designed. If the bridge walkway area to which the pedestrian live load is applied (deck influence area) exceeds 400 square feet, the pedestrian live load may be reduced by the following equation:

$$w = 85\,[0.25 + \frac{15}{\sqrt{A_I}})]$$

Where w is the design pedestrian load (psf) and AI is the deck influence area in square feet. The reduced design live load shall not be less than 65 pounds per square foot of bridge walkway area.

Secondary Members: Bridge decks and supporting floor systems, including secondary stringers, floor beams and their connections to main supporting members shall be designed for a live load of 85 pounds per square foot, with no reduction allowed.

Vehicle Loads: The bridge superstructure, floor system and decking shall be designed for each of the following load conditions:

1) A concentrated load of 1000 pounds placed on any area 2.5 ft x 2.5 ft square with a 30 percent impact allowance or
2) A 20,000 (H-10) four wheel vehicle.

Wind Load: The steel trusses shall be designed for a wind load in accordance with the AASHTO Guide Specifications for Design of Pedestrian Bridges and as amended herein. A wind load of 75 pounds per square foot shall be applied horizontally at right angles to the longitudinal axis of the structure. The wind load shall be applied to the projected vertical area of all superstructure elements, including exposed truss and side treatment members on the leeward truss. For open truss bridges, where wind can readily pass through the trusses, bridges may be designed for a minimum horizontal load of 50 pounds per square foot on the full vertical projected area of the bridge, as if enclosed.

All trusses shall be cambered to offset the effects of full dead load deflections. The vertical deflection of the main trusses due to service pedestrian live load shall not exceed 1/500 of the span.

The deflection of the floor system members (floor beams and stringers) due to service pedestrian live load shall not exceed 1/360 of their respective spans. The horizontal deflection of the structure due to lateral wind loads shall not exceed 1/500 of the span.

The provisions of Article 10.8 of the Standard Specifications for Highway Bridges shall apply to the minimum thickness of metal except that that the minimum thickness of closed structural tubing members shall be 1/4 inch.

Welding of structural tubing shall conform to the requirements of the American Welding Society, Structural Welding Code – Steel ANSW/AWS D1.1, current edition. All other welding shall conform to the requirements of the American Welding Society, Bridge Welding Code D1.5., current edition. Fabrication shall conform to AASHTO Standard Specifications for Highway Bridges, Article 11.4 – Division II.

Field splices may be fully bolted with AASHTO M-164 high strength bolts in accordance with "Specifications for Structural Joints" or may be field welded using full penetration welds. Splices shall be designed for the actual load in the member but in no case for less than 75% of the effective member strength. Field splice location may be controlled by erection weight limits due to overhead power vertical clearance requirements. It is anticipated the superstructure truss elements will be erected separately. The truss design shall include provisions for temporary bracing members.

The vertical truss members and the floorbeams and their connections in the truss span shall be proportioned to resist a lateral force applied at the top of the truss verticals that is not less than 0.01/K times the average design compressive force in the two adjacent top chord members where K is the design effective length factor for the individual top chord members supported between the truss verticals. In no case shall the value for 0.01/K be less than 0.003 when determining the minimum lateral force, regardless of the K-value used to determine the compressive capacity of the top chord. This lateral force shall be applied concurrently with these members' primary forces.

Bridge bearings and anchor bolts shall be provided by the truss manufacturer. A pinned connection shall be provided at each end of the truss. Anchor Bolts shall conform to ASTM A307. Anchor bolts, nuts and washers shall be galvanized in accordance with the requirements of ASTM A153. Anchor bolts shall be based on typical loading demands and for a minimum earthquake design load based on 10% of the contributing dead load. Anchor bolt design and spacing shall be approved by the Engineer prior to commencing abutment construction.

Working drawings and design calculations for the truss span shall be developed and submitted in accordance with Subsection 105.03 Plans and Working Drawings. Working drawings shall be unique drawings and not standard forms requiring filling in blank spaces unless all extraneous information is deleted and standard forms provide an exact description of work. All relative design information shall be clearly shown. This information shall include, but not be limited to, the physical and section properties of all elements, method of support and attachment, bridge reactions, size and location of bridge bearings and anchor bolts, material properties, and welding details. Bridge depth and vertical control shall be clearly identified including minimum vertical clearance from the top of canal lining to bottom chord of the truss and required substructure support elevations and/or adjustments (bearings are to be level). Horizontal control shall be clearly identified including the placement of the truss units on each substructure element. Drawings shall have cross referenced details and sheet numbers. All drawings shall be signed and sealed by a professional engineer registered in the State of Arizona.

Design calculations and supporting data shall be submitted for all elements of the truss system including the deck, bearings and anchor bolts. Design notes shall include an explanation of symbols and computer programs used. Submit design calculations in 8 ½" by 11 inch page format with the date of preparation, initials of the designer and checker and the page number at the top each sheet. Provide and index with the design calculations. The title page and index sheet shall be signed and sealed by a professional engineer registered in the State of Arizona.

Fabrication:

Fabrication of the truss spans shall be in conformance with Subsection 604-3.02 except as modified in these Special Provisions.

Bearings shall transmit loadings to the abutment cap along the designated centerline of bearing (as shown on Dwg. S-02.04) no closer than 6'-0" but no further than 7'-6" from the Multi-Use Path Construction Centerline.

The prospective bidder may select a truss manufacturer; however, the manufacturer's qualifications and proposed product must be reviewed and accepted by the Engineer prior to the final selection. The prospective bidder shall ensure that provisions are made for placement of the prefabricated steel superstructure due to the close proximity of the overhead power lines. Requirements for clearance to the overhead power lines shall be verified with SRP.

The superstructure truss span shall have characteristics and aesthetics in conformance with these special provisions and the project plans. All truss verticals shall be perpendicular to the ground after installation.

Open joints in the concrete deck shall be filled with bituminous joint filler and capped with 1" hot poured sealant as detailed in the contract documents.

All welding shall be performed by properly accredited, experienced certified welders in accordance with the American Welding Society.

Field Assembly and Erection:

The manufacturer shall provide detail, written instruction in the proper lifting procedures and splicing procedures (if required). The truss supplier is to provide technical assistance while the trusses are being set.

The contractor shall ensure minimum vertical clearance requirements are met for placing the steel superstructure under the overhead power lines.

SRP Construction Notes:

- Elevations of the proposed bridge floor and underside of the bridge deck shall be verified by the SRP Engineer prior to placing concrete.
- No concrete shall be placed without prior approval of the SRP Engineer.
- All concrete, plaster, or headwalls shall be sprayed with a white pigment curing compound immediately after finishing or form removal.

- Any abandoned structures found within the zone of construction shall be completely removed to the SRP Engineer's satisfaction.

- Any material placed in the canal or in the canal right-of-way shall be completely removed to the SRP Engineer's satisfaction.

- All backfill shall be carefully placed in 8-inch uncompacted lifts and compacted to a minimum of 95 percent standard Proctor density, ASTM D698.

- All damage to SRP facilities shall be repaired by the Licensee or his contractor to the SRP Engineer's satisfaction. If emergency repair work is necessary or the Licensee fails to complete all work covered by this License in a reasonable time as determined by the SRP Engineer, the work may be performed by SRP forces, and the Licensee shall pay the full cost of said work.

- Through traffic on both canal roads, or on detours approved by SRP, shall be provided and maintained by Licensee at all times for the full duration of bridge construction for SRP operations and maintenance equipment.

- The contractor is responsible for handling storm flows, return flows and other nuisance water in the canals.
- The approach ramp material shall consist of a well-graded aggregate base in accordance with MAG Specifications Section 702, or a similar material approved by the SRP Engineer, thoroughly mixed with a minimum of 20 percent to a maximum of 40 percent fines (material that will pass that #200 sieve).

- The exact length and alignment of retaining walls or wing walls will be determined in the field at the time of construction by the SRP Engineer prior to setting the forms.

- If the canal lining is disturbed during installation of the bridge or associated structures, it shall be reshaped, compacted, and lined, as directed by the SRP Engineer in accordance with the following SRP Standard Drawings and Specifications:

    - WES-FRCANLNG – "Standard Drawing for Fiber-Reinforced Canal Lining Section"
    - WTR 02490 – "Standard Specification for Preparation of Subgrade For Canal Lining"
    - WTR 03364 – "Standard Specification for Fiber Reinforced Shotcrete for Canal Bank Lining"
    - WTR 03361 – "Standard Specification for Placement of Canal Bottom Concrete"
    - WTR 03300 – "Standard Specification for Concrete" 21 December 2007 Design Guidelines and Specifications For Bridge Crossings of Salt River Project Canals

- If the existing bottom and bank lining does not meet the above requirements, it shall be removed and replaced as specified herein. All bottom and bank preparation shall conform to the minimum standards as stipulated in SRP Standard Drawings and Specifications above.

- Any damage done to the lining as a result of construction shall be the responsibility of the Licensee. If any repairs or modifications to the canal lining are required, the work shall be performed during the next canal dryup, by and at the expense of the Licensee.

- At no time will any obstruction to the flow of the canal be allowed. This includes deck support timbers, and any soil or rubble that may enter the canal. If material does enter the canal, the

contractor shall remove it at his expense immediately. If the contractor does not remove the material when notified, SRP may remove the debris at the Licensee's expense.

- No excavation will be permitted across the full width of the canal bank and maintenance road, which would, at bank-to-bank flow, create a conduit for flow out of the canal, or across the maintenance roads.

- These comments are in reference to SRP water facilities only. In some cases, electric power facilities are taken into consideration in these comments, but these comments do not include comments from SRP Power Group (SRPP). If there are conflicts or concerns with SRPP facilities, please contact the appropriate person at SRP:
    - For 12kV for ADOT, MCDOT, FCDMC, Gilbert and Mesa projects, contact Jim Rea at (602) 236-8643
    - For 12kV in Avondale, Chandler, Glendale, Peoria, Phoenix, Scottsdale, Tempe and Tolleson, contact Al Baizel at (602) 236-0840
    - For 69kV and above maintenance issues, contact Paula Atkins at (602) 236-8467
    - For 69kV and above design or relocation issues Steve Lopez at (602) 236-3786
    - For substation maintenance issues, contact Floyd Stewart at (602) 236-3727
    - For substation design issues, contact Bob Roessel at (602) 236-8648
    - For safety issues, contact SRP Safety Services at (602) 236-8117

Welding:

General: Conform to ADOT Standard Specifications Section 604 except as modified herein.

604-3.06 **Welding:** the first sentence of the first paragraph of the ADOT Standard Specifications is revised to read:

All welding and inspection of welding for structural steel, except for tubular structures, shall be performed in accordance with the requirements of the ANSI/AASHTO/AWS D1.5-96 Bridge Welding Code.

Steel Reinforcement:

General: Conform to ADOT Standard Specifications Section 605 except as modified herein.

605-3.01 **General:** The second paragraph of the Standard Specifications is revised to read:

Prior to fabrication, the Contractor shall submit shop drawings and lists showing the bending of reinforcement bars, splice locations, and details to the Engineer for review in accordance with the requirements of Subsection 105.02. Review of the submittal by the Engineer shall not relieve the Contractor of responsibility for correctness of the shop drawings and lists.

Method of Measurement: This item of work will be measured per lump sum, complete in place in accordance with the requirements herein and as shown on the plans.

Basis of Payment: The accepted quantities of this item of work shall be paid for at the contract unit prices complete in place, measured as provided above.

The contract unit price paid per lump sum for this item of work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work

involved in furnishing and constructing all elements of the Pedestrian Bridge except drilled shafts and retaining walls.

ITEM 505825 RETAINING WALL (BRW1, BRW2, BRW3 & BRW4):

General: Conform to ADOT Standard Specifications Section 914.

ITEM 505827 RETAINING WALL (RW-1):

General: Conform to ADOT Standard Specifications Section 914.

ITEM 520001 STEEL HANDRAILS, COS 2508:

General: Conform to MAG Section 520 except as modified herein.

The completed steel railing units shall be galvanized in accordance with the requirements of Section 771.

All steel handrails shall be grounded per the details shown in the plans.

Steel Handrail shall not be painted.

Construction Method: For structures on curves, either horizontal or vertical, the railing shall conform closely to the curvature of the structure.

ITEM 603004 4" HDPE:

Description: The Contractor shall furnish and install Corrugated High Density Polyethylene (CHDPE) pipe sleeve in accordance with these specifications and the contract plans.

Materials: Corrugated High Density Polyethylene Pipe shall be AASHTO M-294, Type S. The supplier shall provide materials certifications through the contractor to the Engineer as part of the evidence of acceptability for the material at least 10 days prior to shipment of the product to the job site. The exposed portion of HDPE pipe mounted to the MUP Pedestrian Bridge Steel Truss Superstructure shall have ultraviolet radiation protection.

Pipe sleeve markers shall be per ADOT Standard Drawing No C-16.40.

Construction Details:

A. The alignment and profile of the sleeves shall be as shown on the contract plans.

B. Provisions shall be made to accommodate thermal expansion and contraction of the CHDPE sleeve.

C. The contractor's attention is directed to the environmental constraints and restrictions in the permits and elsewhere herein. He is advised that all of his operations must be conducted in strict conformance and adherence thereto, all to the satisfaction of the Engineer.

Installation:

A. Special care in handling shall be exercised during delivery and distribution of pipe to avoid damage. Damaged pipe shall be rejected and replaced at the Contractor's expense.

B. The Contractor shall haul heat fuse joints and hydrostatically test the pipeline in one section.

C. The alignment shall conform to the following requirements:
- Minimum bending radius of the installed pipe line shall be no less than 25 times the O.D. of the CHDPE pipe.

D. The Contractor shall provide details for attaching the CHDPE sleeve to the MUP Pedestrian Bridge Steel Truss Superstructure. Attachment details shall be submitted for review to the Engineer prior to fabrication.

E. Pipe sleeve markers shall be installed per the details shown on the project plans.

Method of Measurement: This item will be measured by the number of linear feet (Laying length) furnished and incorporated in the work in a manner satisfactory to the Engineer. The measurement will be made along the axis of the pipe. No separate measurement will be made for supplying and installing pipe sleeve markers.

Basis of Payment: The price bid per linear foot shall cover the furnishing, delivering, handling, cutting and joining pipe, and all labor and materials necessary to complete the work. No separate payment will be made for pipe sleeve markers, the cost being considered incidental to this element of work.

ITEM 610812 WATER SERVICE CONNECTION, 1 INCH:
ITEM 610952 1" TYPE K SOFT COPPER TUBING:

General: Conform to MAG and City of Scottsdale Section 610 except as modified herein.

Materials:

All fittings, valves and pipes shall conform to MAG Sect. 230.

Valve boxes shall be per MAG Detail 391-1, Type C with locking lids.

Meter Service Connections: Delete text of MAG Section 610.10 and insert the following:

Water service construction shall comply with Detail O of the project plans, except as modified herein. All new water service taps on existing mains will be made only by City of Scottsdale approved vendors at Contractor's expense. The contractor shall contact the City of Scottsdale Inspector to schedule to the installation of the new water service tap. Taps on new water mains will be made by the Contractor prior to testing and disinfection of the new line.

Meter service piping shall be type K soft copper and will be installed by mechanical/pneumatic underground boring or open cut construction as specified on the plans.

All new water meters shall be installed by City of Scottsdale forces after initiation of account and payment of fees (see Permits).

Measurement and Payment: Delete text of Section 610.19 and insert the following:

This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

Measurement and payment for any necessary traffic control shall be per ITEM 401001 TRAFFIC CONTROL.

ITEM 610980 1" PRESSURE GAUGE:

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for installing a new 1" pressure gauge as described herein and as shown on the project plans. Conform to MAG and City of Scottsdale Section 610 except as modified herein.

Accuracy: 1.6% full scale
Dial Size: 2.5 inches (63mm)
Tube Material: 316 Stainless Steel
Sensing Element: Bourdon Tube
Connection: ¼ NPT lower
Range: 50 – 125 PSI
Case Material: 304 Stainless Steel
Movement: Stainless Steel
Pointer: Black, aluminum
Dial: Black figures on white background, aluminum
Window: Polycarbonate
Operating Temperature: -40°F to 200°F dry
Operating Value: 60 PSI

The contractor shall submit product data information to the Engineer for approval.

Construction Method:

A) Gauge tapping position to be clear of equipment functions and movements, and protected from maintenance and operation of equipment.
B) Gauge to be readable from an accessible standing position.
C) Select gage range so that:
    a. The normal operating value is in the middle third of the dial.
    b. Maximum operating pressure does not exceed 75 percent of the full scale range.

Measurement and Payment: This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

ITEM 610981 1" PRESSURE RELIEF VALVE:

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for installing a new 1" pressure relief valve as described herein and as shown on the project plans. Conform to MAG and City of Scottsdale Section 610 except as modified herein.

Operation: Direct and spring-loaded
Power: No external power to operate
Body: CF8M Stainless Steel
Body Size: 1 inch NPT
Temperature Capablities: -40°F to 450°F
Maximum Relief (Inlet) Pressure: 400 PSI
Differential Pressure Range: 15 to 275 PSI

The contractor shall submit product data information to the Engineer for approval.

Measurement and Payment: This work will be measured and paid for at the per unit quantities indicated on the schedule of bid items, which amount shall be considered full compensation for all labor, equipment, materials, work and incidentals shown on the plans that is not covered by any other bid item.

ITEM 618124 THRU 618830 STORM DRAIN CONSTRUCTION:

General: Conform to MAG and City of Scottsdale Sections 618, 620 and 621 except as modified herein.

Materials:

(A) Reinforced Concrete Pipe:

(1) Reinforced concrete pipe shall conform to the requirements of MAG Section 735 with rubber gasketed joints.

Construction Methods:

(A) Reinforced Concrete Pipe:

(1) Pipe trenching and bedding shall conform to the requirements of City of Phoenix Supplement to MAG Section 601.2.3 and City of Scottsdale Supplement to MAG Sections 601.4.2 and 601.4.6.

(2) Existing utility lines shall be protected and/or supported when necessary as required by MAG Section 601.3. Cost for this work will be included in the unit price cost of the storm sewer lines.

(3) Prefabricated fittings shall be used for lateral pipe connections unless shown and detailed otherwise on the plans.

(4) Backfill and ABC slurry for all pipes shall be in accordance with City of Scottsdale Detail No. 2201 or as specified and detailed on the plans.

(5) All other construction methods and testing shall be in accordance with MAG Specification Section 618.

Equalizing Gasket Stresses: Stresses in all ring type gaskets shall be equalized around the perimeter of the pipe by raising the gasket material off the pipe using a screw driver or similar tool and smoothly revolving around the pipe perimeter a minimum of two passes.

Backfill and ABC Slurry: Shall be per City of Scottsdale Detail No. 2201 or as specified and detailed on the plans.

Measurement and Payment: Per MAG Sections 618 and 621 and City of Scottsdale Section 620 per linear foot for each size and type of pipe as indicated on the schedule of bid items, except as modified herein.

Main line pipe: No separate payment will be made for prefabricated tees, fittings and/or lateral pipe connections, the costs of which shall be included in the price per linear foot of storm drain line as indicated on the Schedule of Bid Items.

ITEM 640401 THRU 640 UTILITY CONDUITS:

General: The plans reference items related to street lighting and utility trenching which are to be installed by the Contractor. Installation of these items is to be in accordance with specifications and requirements of the respective utility agency. The Contractor is responsible for all coordination, scheduling, acquisition and installation of materials and the required inspections by others.

Materials: All materials installed shall be as specified on the plans. The Contractor shall obtain all materials as directed by the utility agency.

Construction: The contractor shall provide all trenching, furnish (if necessary) and install all conduit, pull boxes, pull wires, etc. as specified on the plans.

Shading or Bedding of the utility conduits shall be per the specifications of the utility agency. Where trenching crosses existing or proposed pavement areas, all backfilling shall be accomplished in accordance with City of Scottsdale Supplemental Detail No. 2200.

Conduit for Cable TV will be provided by the cable company and be installed by the Contractor, where applicable. Contractor shall coordinate this work with the cable television company.

The Contractor shall coordinate conduit installations with the telephone company where indicated on the plans or street lighting design drawings. The Contractor shall furnish and install all sleeves for telephone conduit as shown on the plans. All sleeves shall be schedule 40 PVC, buried to a minimum thirty (30) inches below finish grade and shall be provided with PVC caps.

Measurement and Payment: All work as described herein and shown on the plans shall be paid for at the unit prices indicated on the Schedule of Bid Items. This amount shall be considered full compensation for the work complete and in place per the requirements of the individual utility companies.

ITEM 900003 PET WASTE STATION (DETAIL B):

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for installing new pet waste stations as described on Detail B of the project plans.

Pet waste station shall be grounded per the details shown in the plans.

An example of the pet waste station to be use may be seen near the Phase I shade structure, which is located along the Crosscut Canal at Oak Street, east of 66th Street. The pet waste station is located just south of the existing Oak Street pedestrian bridge.

Measurement and Payment: The accepted quantities of ITEM 900003 PET WASTE STATION (DETAIL B) will be paid for at the contract unit price per each, which shall be full compensation for the work described and specified herein and on the project plans, including all hardware, excavation, backfill, sign, sign post, post base and anchor, grounding and incidentals necessary to complete the work.

ITEM 900004 CONCRETE TRASH RECEPTACLE:

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for installing new precast concrete trash receptacle as described herein and as shown on the project plans.

Capacity: 30 to 45 Gallons
Height: 33” to 44”
Material: Concrete
Shape: Round
Color: Gray
Finish: Smooth
Liner: Plastic or Fiber Glass
Lid: Plastic or Fiber Glass, Color to Match Trash Receptacle
Anchor: Per manufacturer

Precast concrete trash receptacles shall not have any exposed metal surfaces. The contractor shall submit product data information to the Engineer for approval.

An example of the concrete trash receptacle to be used may be seen at the Phase I shade structure, which is located along the Crosscut Canal at Oak Street, east of 66th Street.

Measurement and Payment: The accepted quantities of ITEM 900004 CONCRETE TRASH RECEPTACLE will be paid for at the contract unit price per each, which shall be full compensation for the work described and specified herein and on the project plans, including all hardware, excavation, backfill and incidentals necessary to complete the work.

ITEM 900005 ELECTRICAL SERVICE CABINET (SEE T-03.01):

General: Conform to MAG and City of Scottsdale Section 403 except as modified herein.

The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for installing a new electrical meter service for the traffic signals, street lighting and pedestrian lighting at 64th Street and Indian School Road.

The contractor shall coordinate this element of work with APS and the City of Scottsdale.

The electrical service cabinet shall include the following: lightning arrest (ground rod), photocell receptacle rated for 20 amps or more, sub-breakers and text/auto switch. A metal address taf shall be permanently mounted on the front side of the cabinet underneath the meter window. The photo cell shall be oriented in the North direction.

The cabinet foundation shall be at least 30 inch x 30 inch and project 6 to 8 inches above the finished ground elevation. The cabinet foundation shall be at least 36 inches below the finished ground elevation. A technician pad shall be installed in front of the cabinet with dimensions of 30 inch x 36 inch x 4 inch.

All pull boxes, except those supplied by APS, shall be ADOT No. 7 concrete/fiber composite type and shall include minimum 8 inch extension on main pull box. All pull boxes require sump #57 rock, per ADOT standards. Pull boxes shall not be installed within the 10-foot multi-use path and shall be located outside the SRP access drive. All pull boxes shall be marked “Traffic Signal” on the lid.

APS shall supply one pull box, to be installed by the contractor, the location shall be coordinated in the field with APS.

Measurement and Payment: The accepted quantities of ITEM 900005 ELECTRICAL SERVICE CABINET (T-03.01) will be measured and paid for as a single lump sum, which shall be full compensation for the work described and specified herein and on the project plans, including the cabinet and all hardware, foundation, excavation and backfill for the cabinet foundation, conduits, conductors, pull boxes, and incidentals necessary to complete the work.

ITEM 900006 CLEAN OUT EXISTING CATCH BASIN AND STORM DRAIN PIPE:

General: The work under this item shall consist of furnishing all materials, tools, equipment and labor necessary for cleaning dirt and debris from inside an existing catch basin and storm drain pipe, as called for on the project plans.

Once cleaned out, the contractor shall maintain the catch basin and storm drain pipe clear of dirt and debris until project completion and acceptance by the City of Scottsdale. The contractor shall coordinate the initial cleanout with the City’s Inspector.

Measurement and Payment: The accepted quantities of ITEM 900006 CLEAN OUT EXISTING CATCH BASIN AND STORM DRAIN PIPE will be paid for at the contract unit price per each, which shall be full compensation for the work described and specified herein and on the project plans, including all material, tools, equipment and incidentals necessary to complete the work.

ITEM 9230001 ALLOWANCE TO PROVIDE ON-THE-JOB TRAINING:

General: Providing on-the-job training is not mandatory; however, if the contractor elects to provide on-the-job training, then the following requirements shall be followed:

The available number of training hours is **125**; however, the contractor shall make every possible effort to see that all trainees are afforded every opportunity to participate in as much training as is practically possible to provide.

In the event that a contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the City for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor shall satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records shall document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the City. The City will approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, Apprenticeship programs registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Bureau of Apprenticeship and Training will also be considered acceptable provided they are being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Specifically, union apprenticeship programs and Associated Builders and Contractor's apprenticeship programs may be used. Additionally, in-house training programs may be approved on a case-by-case basis. Approval

or acceptance of a training program shall be obtained from the Highways Division prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is may be permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Acceptance of training in such lower level management positions shall be on a case-by-case basis, and approval shall be obtained from the City prior to commencing work. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Federal Highway Administration. Some off site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for off site training indicated above may only be made to the contractor where he contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the off site training period.

No payment will be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. However, when such training opportunities are suspended or interrupted under the contract which the trainee was designated, the contractor may continue training under other City contracts regardless of their funding, except that no reimbursement for such training shall be made on non-federal aid contracts, under this training special provision. It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent of the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program will apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The contractor shall provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

The contractor shall submit a weekly training report to the Inspector. The report shall be prepared on forms obtained from the Civil Rights Office, 1135 N. 22nd Avenue (second floor), mail drop 154A, Phoenix, Arizona 85009, phone (602) 712-7761.

At the preconstruction conference, the contractor shall submit a schedule which will indicate each trainee's name, sex, race/ethnicity, the program in which the trainee is enrolled, the approximate number of hours each trainee will be trained in each phase of the work, the crafts to which the trainees belong and the estimated period of time that they will be employed as trainees. A supplemental schedule shall be submitted to the Inspector when a revision in the original schedule is necessary. At the time each trainee is scheduled to begin work, the contractor shall submit to the Inspector each trainee's name, sex, and race/ethnicity. The contractor must also submit proof that the trainee is enrolled in an approved training program.

At the conclusion of the project or at the end of each calendar year for multi-year projects, the contractor must submit to the Affirmative Action Office and to the project office, the same information described hereinbefore for each trainee that worked on the project. Additionally, the contractor must indicate if the trainee graduated from the program, was terminated due to cause, or was transferred to another project to continue his/her training.

If, at the preconstruction conference, the contractor does not provide a schedule containing the specified information, the Inspector will notify the contractor of the infraction. Failure to provide the schedule within 15 calendar days from the date of notification shall be considered as willful non-compliance. The Inspector will cause to be withheld from the contractor's monthly payments additional retainage in the amounts specified below. The amount withheld from the monthly payment shall be held until an acceptable schedule or supplemental schedule has been submitted.

The Inspector will monitor the use of trainees based on the contractor's schedule, supplemental schedules, and weekly training report. If the use of trainees is not in conformance with the schedule or supplemental information, the Inspector will cause to be withheld from the contractor's monthly payments additional retainage in the amounts specified below. Conformance with the schedule will be considered acceptable when the cumulative number of trainee hours earned to date under the Item 9230001 – ALLOWANCE TO PROVIDE ON-THE-JOB TRAINING is at least 90 percent of that shown on the schedule, for the work performed to date.

ADDITIONAL RETAINAGE

First and Second monthly payments following infraction	$1,000.00 each month
Third monthly payment and thereafter	$5,000.00 each month

The amount withheld from the monthly payment shall be held until an acceptable schedule or supplemental schedule has been submitted and until conformance with the schedule has been determined.

If, at the completion of the contract, the City is holding additional retainage in accordance with this specification, the retainage will become the property of the City, not as penalty but as liquidated damages.

INVITATION FOR BID #10PB002

CROSSCUT CANAL MULTI-USE PATH PHASE II

SCOTTSDALE PROJECT NO. T0703
ADOT PROJECT NO. ARRA-SCT-0(200)A
ADOT TRACS NO. 0000 MA SCT SL602 01C

APPENDIX A: (GEOTECHNICAL REPORT)

1. Final Geotechnical Investigation Report
    a. Appendix A – Direct Shear Plots
    b. Appendix B – Axial Capacity of Drilled Shafts Design Chart and Shaft 5.0 Output
    c. Appendix C – Acura Engineering Geotechnical Report (Data Report)
        i. Appendix A – Field Results
        ii. Appendix B – Laboratory Test Results
        iii. Addendum No. 1 – Direct Shear Test Results

Final Geotechnical Investigation Report

City of Scottsdale
Crosscut Canal Multi-Use Path
Thomas Road to Indian School Road
Scottsdale, Arizona

Prepared for:

City of Scottsdale
Capital Project Management
7447 E. Indian School Rd., Suite 205
Scottsdale, AZ 85251

Prepared by:

HDR Engineering, Inc.
3200 East Camelback Road, Suite 350
Phoenix, Arizona 85018

Project No. 58198-044

December 2008

Expires 6-30-09

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APPENDIX B - Axial Capacity of Drilled Shaft Design Chart and Shaft 5.0 Output
APPENDIX C - Acura Engineering Geotechnical Report (Data Report) and Supplemental Data

Expires 6-30-09

1.0 INTRODUCTION

This report presents a description of the geotechnical investigation of the site for a proposed pedestrian bridge and a series of retaining walls, in conjunction with proposed improvements to the multi-use path situated along the east side of the Crosscut Canal located between Thomas and Indian School Roads in Scottsdale, Arizona.

The purpose of this investigation was to evaluate the geotechnical conditions at the project site in order to provide recommendations for site grading and the design of bridge foundations and retaining walls associated with the proposed multi-use path improvements.

Included herein is a project description; a description and results of the field investigation; a summary of the geotechnical conditions; results of laboratory testing; a summary of geotechnical data used in analysis; and recommendations related to site grading and foundation design for the project elements.

1.1 Project Description

Details of the project were provided to HDR by the City of Scottsdale. It is understood that improvements are planned to the existing multi-use bicycle/pedestrian path located along the eastern bank of the Salt River Project (SRP) Crosscut Canal from Thomas Road north to Indian School Road. Improvements are to include the replacement of the existing path with new pavements, the construction of a pedestrian bridge over the Crosscut Canal near Thomas Road, and the construction of a series of retaining walls. It is understood that the retaining walls will be utilized to accommodate grade changes along the pedestrian path alignment.

The purpose of the project is to improve safety and mobility of pedestrians along this segment of the City of Scottsdale multi-use path system. The attached Figure 1 indicates the project location and the approximate locations of geotechnical borings performed for the project. Borings B-1 and B-2, near Thomas Road, are located at the approximate east and west abutment locations, respectively, for the proposed pedestrian bridge. Boring B-3, near Indian School Road, is located approximately within the alignment of the proposed retaining wall. Borings B-4 through B-7, inclusive, are located along the pedestrian path alignment. At the time of the investigation the specific locations of retaining walls were not known with the exception of those associated with the pedestrian bridge. It was anticipated that borings performed along the pedestrian alignment would provided adequate information for planned retaining walls along this segment. Figure 1 also presents the approximate locations of the currently proposed retaining wall locations.

Figure 1
Project Site And Vicinity Map

Project No. 58198-044
Crosscut Canal Multi-Use Path Improvements
Thomas Road to Indian School Road
Scottsdale, Arizona

2.0 INVESTIGATION

The scope of the geotechnical investigation consisted of the following: collecting and reviewing available data; performing geotechnical field reconnaissance; completing a subsurface investigation (soil borings); laboratory testing of selected, recovered samples from the borings; completing engineering analyses; and preparing engineering recommendations and this report.

2.1 Review of Existing Data

Existing data which were collected and reviewed included the following:

- Aerial (high-altitude) photography
- As-built plans for the existing bridges over the Crosscut Canal at Thomas and Indian School Roads

2.2 Site Reconnaissance

A geotechnical reconnaissance of the project was performed by HDR (singly) to identify site conditions and access. A subsequent site visit was performed by Acura and HDR (jointly) during excavation of the test borings.

2.3 Geotechnical investigation

The subsurface geotechnical investigation (drilling) and laboratory testing was performed in two phases. Phase 1 of the geotechnical investigation included the performance of borings for the proposed multi-use path bridge located at Thomas Road, and a retaining wall boring performed at Indian School Road. Phase 2 of the geotechnical investigation included the performance of borings for characterization of materials along the path for possible retaining walls. Both phases of the investigation were performed by Acura and occurred in September and December 2007, respectively. In summary, the geotechnical investigations included the evaluation of subsurface materials and conditions within the project site at proposed multi-use path bridge abutments, and prospective retaining wall locations.

Results of the geotechnical investigations are described in the Acura Geotechnical Report (data report) and in subsequent boring and laboratory test data sheets. The reports for the Phase 1 data and subsequent data summaries are provided in Appendix B. Summary details of the test borings and laboratory tests are provided in subsequent sections of this report.

2.3.1 Utility Clearances

The boring locations were staked in the field by Acura under HDR guidance. Underground utility clearances for the boring locations were performed by Acura utilizing the Arizona BlueStake Center.

2.3.2 Exploratory Drilling

All borings were advanced using a subcontracted CME LT-12 rubber track-mounted drill rig utilizing 7-inch outside diameter (O.D.) hollow-stem auger. Standard penetration (split-spoon) testing (SPT) and sampling or open-end drive sampling (modified California sampler with 2.42-inch diameter brass rings) was performed at selected intervals in the borings. Representative bulk samples of near-surface drill cuttings also were collected from selected borings.

Encountered soils were visually inspected and classified in the field and logged by the Acura field geologist in accordance with ASTM D2487 (Unified Soil Classification System, or USCS).

The boring exploration program consisted of the completion of two (2) borings advanced to depths of about 45 to 55 feet for the proposed pedestrian bridge, and five (5) borings advanced to depths of about 5 to 31 feet for proposed retaining walls. A summary listing of borings performed is provided in the following Table 2-1.

Table 2-1. Boring Summary Table

Boring ID	Item	Description	Depth [1] (ft)
B-1	East abutment, Pedestrian Bridge	Located on east side of Crosscut Canal, north of Thomas Road	55.5
B-2	West abutment, Pedestrian Bridge	Located on west side of Crosscut Canal, north of Thomas Road	45.5
B-3	Retaining Wall	Located southwest of intersection of Indian School Road and 64th Street	31.5
B-4	Proposed Retaining Wall	Located northwest of intersection of Thomas Road and 64th Street	5.0
B-5	Proposed Retaining Wall	Located at approximate intersection of Earll Drive and 64th Street.	5.0
B-6	Proposed Retaining Wall	Located at approximate intersection of Osborn Road and 64th Street.	5.0
B-7	Proposed Retaining Wall	Located at approximate intersection of Weldon Avenue and 64th Street.	5.0

Notes:
(1) Depth of borings indicated is rounded to nearest 0.5 foot.

2.3.3 Laboratory Testing

Engineering soil classification and index tests on selected soil samples recovered from the test borings were performed by the Acura laboratory. A summary of the type and number of tests performed is provided in the following Table 2-2.

Table 2-2. Laboratory Testing Summary Table

Test Description[1]	Test Method	No. of Tests
Grain-Size Analysis	ASTM C136	18
Atterberg Limits (Plasticity Index)	ASTM D4318	18
Moisture Content	ASTM D2216	25
Direct Shear Test (Saturated condition, three points)	ASTM D3080	6
Soluble Sulfates Content	Ariz. Method 733	10
Chloride Content	Ariz. Method 736	10

Notes:
(1) Test specific results are presented in Appendix C.

Individual and summary listings of laboratory test results for collected samples from the geotechnical investigation are presented in the Acura report and supplemental test summary table in Appendix C.

3.0 SITE CONDITIONS & GEOTECHNCIAL PROFILE

Portions of the following descriptive site conditions and geotechnical profile information were obtained from the Acura report.

3.1 Site Conditions

The project site is located immediately west of 64th Street along the Crosscut Canal, between Thomas and Indian School Roads. The canal is a concrete-lined irrigation channel with parallel paved and unpaved pedestrian paths along both sides. Along the canal, two high-voltage overhead power lines are present. Land use adjacent to the project alignment consists of both commercial and residential developments. The site is generally flat, with a slight decrease in elevation to the south.

3.2 Geotechnical Profile

The geotechnical profile, described below, consists of existing man-made fill overlying native, undisturbed soils.

Man-made fill deposits were encountered in all borings, from the ground surface to depths ranging from about 9 to 12 feet below existing site grades. Fill was encountered to the full depths explored (5 feet) in Borings B-4 through B-7, inclusive). The existing fills are understood to have been derived from materials excavated during the construction of the Crosscut Canal. The fills vary somewhat in composition and consist of mixtures of sand, silt and clay with lesser amounts of gravel. The fills range in consistency from moderately firm to hard, and are uncemented and slightly moist.

In general, coarse-grained native soils consisting of mixtures of sand, silt and clay were encountered beneath the overlying man-made fill and extended to the full depth of investigation of the borings, with occasional fine-grained lenses consisting of predominately silt and clay. The native soils are predominately very firm to hard, weakly to moderately cemented, low to medium in plasticity, and slightly moist to moist.

3.3 Groundwater Conditions

No free groundwater was encountered in any of the borings performed for this investigation, and the site soils were described in the field as being slightly moist to damp. Laboratory measurements of in situ soil moisture content varied between 7 and 15 percent (of dry weight). Increased moisture contents in the site soils typically were observed at depth and may be the result of minor leakage of the canal lining.

3.4 Site Seismicity

Probabilistic earthquake ground motion values were obtained from the USGS National Seismic Hazard Mapping Project, Earthquake Hazards Program (USGS, 2002). Interpolated, probabilistic ground motion values of peak ground acceleration (PGA) in rock for ten and two percent probabilities of exceedance in 50 years were obtained for the project area by zip code, and are presented in the following Table 3-1.

Table 3-1. Probabilistic Ground Motion, (% g)

Zip Code	Description	PGA[2],[7] 10% PE in 50 years (RP[4] = 475 years)	PGA[2],[7] 2% PE in 50 years (RP = 2,475 years)	Spectral Acceleration [1] 10% PE[3] in 50 years 0.2 sec SA[5]	Spectral Acceleration [1] 10% PE[3] in 50 years 1.0 sec SA[6]	Spectral Acceleration [1] 2% PE in 50 years 0.2 sec SA	Spectral Acceleration [1] 2% PE in 50 years 1.0 sec SA
85251	Project Site	3.9	8.2	8.8	2.8	19.3	6.4

Notes:

(1) Percent (% g) of gravity
(2) (PGA) Peak Ground Acceleration
(3) (PE) Probability of Exceedance
(4) (RP) Return Period
(5) Spectral acceleration at 0.2 second period
(6) Spectral acceleration at 1.0 second period
(7) Values are for "firm rock" sites with shear-wave velocity of 760 meters/second in the top 30 m of the profile

For structures, the maximum considered earthquake and spectral response accelerations should be determined in accordance with the requirements of the general procedure outlined in Section 1613 of the International Building Code (ICC, 2006), and Site Class D (stiff soil) should be utilized for the project site. Alternately, in accordance with Section 1629 of the Uniform Building Code (ICBO, 1997), Soil Profile Type S_D (stiff soil) should be utilized. Seismic Zone 1 and Seismic Zone Factor Z = 0.075 are recommended based on Figure 16-2 and Table 16-I in the Uniform Building Code (ICBO, 1997).

4.0 GRADING RECOMMENDATIONS

4.1 Site Grading and Subgrade Preparation

The exposed surfaces upon which fill is to be placed should be scarified, moisture-conditioned and compacted prior to placement. All unstable or otherwise objectionable material should be removed from the subgrade and replaced with approved material. Depressions should be widened as necessary to accommodate placing and compaction equipment and to provide a level base for placing fill. In sloping areas steeper than 4H:1V, the ground surface should be horizontally keyed into the existing slopes and benched prior to placing fill. Benches should be a minimum of 8 feet in width with a maximum vertical height between benches of 2 feet.

Subsequent to clearing and grubbing, exposed cut surfaces within all footing areas should be scarified in the upper 12 inches, moisture-conditioned to within the range of minus 3 to plus 1 percent of optimum moisture content, and compacted to at least 95 percent of the maximum dry density as determined by ASTM D698. During compaction of the ground surface, a representative of the geotechnical engineer should be present to observe to observe any loose or soft zones. Should loose or soft zones be encountered, they should be removed at the discretion of the geotechnical engineer.

4.2 Fill Slopes and Embankments

Recommended permanent embankment fill slopes to be constructed as part of the multi-use path at the proposed retaining wall are 1.5H:1V (steepest) or flatter. This fill slope recommendation is contingent on proper subgrade preparation, fill placement and compaction.

It is understood that areas of proposed fill embankments may be constructed over existing slopes. Typically, outer edges of existing slopes are relatively soft due to exposure to runoff and associated erosion. Subsequent to subgrade preparation, as discussed in Section 4.1, it is recommended that the new embankments be horizontally keyed into the existing slopes a minimum of 3 feet in areas where the existing slope exceeds 4H:1V.

Constructed slopes should be stable, based on the anticipated shear strength of both the embankment fill materials derived from the excavations and the foundation materials. It is anticipated that the majority of the excavated materials derived from the excavations will be suitable for use as mass embankment fill.

5.0 FOUNDATION RECOMMENDATIONS

The dense to very dense existing man-made fill soils will provide adequate support for retaining wall spread footings which penetrate or bear on these soils; however, some subgrade preparation will be required.

The proposed pedestrian bridge structure is understood to be a single-span bridge, and supported on drilled shaft foundations. Based on geotechnical investigation and analysis, the generally firm to hard native soils encountered at the site will provide good support for deep foundations (straight drilled shafts) which penetrate or bear on these soils.

Recommendations for support of proposed structures are presented in the following sections. These recommendations are based on our current understanding of the project and on the results of the field investigation and laboratory testing.

5.1 Spread-Type Footings

Conventional spread-type footings founded in the existing man-made fill, at a minimum depth of 2.0 feet below existing grade, are recommended for support of proposed retaining walls south of Indian School Road and adjacent to the Crosscut Canal. Based on the results of the field investigation, the near-surface fill soils encountered at the wall alignment possess moderate bearing capacity and anticipated low compressibility at existing moisture contents.

Excavated (cut) surfaces in existing near-surface soils, including fill, should be prepared (scarified, moisture-conditioned and compacted) as recommended in Section 4. Provision of positive site drainage is required in order to reduce the potential for moisture increases (and associated compression) of the soils beneath footings.

Where required, engineered fill beneath footings should be moisture-conditioned, placed and compacted as recommended in Section 4 of this report.

5.1.1 Vertical Loads

Presented in Table 5-1 are the recommended uniform allowable bearing pressures as a function of the depth of footing bottom below existing site grades, for use in design of spread-type retaining wall footings. Subsequent sections of this report present recommended criteria for design of spread footings.

Table 5-1. Recommended Uniform Allowable Bearing Pressures (Conventional Spread or Continuous Footings)

Footing Depth Below Existing or Finished Grade (feet)	Bearing Stratum	Uniform Allowable Bearing Pressure (Dead + Live Loads) (psf)
2.0	Prepared Subgrade or Compacted Engineered Fill	1,500
3.0	Prepared Subgrade or Compacted Engineered Fill	1,750

The above allowable bearing pressures apply to level foundations for the proposed retaining wall supported by existing, undisturbed man-made fill or native soils, or compacted engineered fill, at the minimum specified depth below existing or finished grade. Footing depth is defined as the depth of the base of the footing below finished grade or the lowest adjacent grade within a distance of four feet of the edge of footing, whichever is deeper. Footing excavations should be observed by a geotechnical engineer or his qualified representative in order to verify and approve the footing bearing conditions prior to placing reinforcing steel and concrete. Soft, loose or disturbed soils encountered in footing excavations should be over-excavated to a firm, undisturbed bearing surface. Over-excavated zones may be backfilled to bottom of footing grade with controlled low-strength material (CLSM; ABC slurry with a minimum cement content of 1-½ sacks of cement per cubic yard) meeting the requirements of Sections 604 and 728 of the MAG standard specifications (MAG, 2008).

The above recommended allowable bearing pressures may be increased by one-third when considering wind or seismic loads in combination with dead plus live loads. The above recommended allowable bearing pressures may also be increased by one-third for footing toe pressures when considering eccentric or inclined loads. The location of the resultant of pressure on the base of footings should be maintained within the middle one-third of the footing at its base to ensure that the entire footing base remains in compression. The weight of the foundation concrete below finished grade may be neglected in dead load computation. A minimum footing width of 1.33 feet for continuous wall footings is recommended.

5.1.2 Estimated Settlements

Total settlement of footings, based on the anticipated structural loads, is estimated to be ½ inch or less and assumes that bearing soils beneath footings remain at or near their natural or as-compacted moisture contents. Differential settlement of footings is estimated to be ¼ inch for this estimated total settlement. Settlement is anticipated to be immediate and should be essentially complete upon application of the initial live load. Additional post-construction settlement could occur as a result of moisture increases in existing fill, native soils or compacted engineered fill beneath footings. Infiltration of water into the soils beneath footings should be prevented for the life of the structure by providing proper surface drainage and collection of runoff, and avoiding over-watering of any landscaping.

5.1.3 Resistance to Lateral Loads

The ultimate passive resistance against the edges of footings, pier caps and abutment walls and other vertical foundation elements, in contact with undisturbed existing man-made fill, native soils or properly compacted engineered fill, should be considered as being equal to the force exerted by a fluid pressure of 300 pounds per square foot (psf) per foot of depth for footings constructed at a depth of at least 2.0 feet below existing or finished grade. A coefficient of

friction of 0.35 is recommended for computing the lateral resistance between the bases of footings and slabs and the supporting soil surface when analyzing lateral loads. For cases where ultimate passive resistance and base friction are used in combination, it is recommended that the ultimate passive resistance be reduced by 50 percent in order to more closely model expected lateral movements and associated development of passive resistance. Compaction of backfill against embedded footings or walls designed to provide passive resistance should be to a minimum of 95 percent of the maximum dry density, determined in accordance with ASTM D698.

5.2 Retaining Walls

5.2.1 Retaining Wall Backfill

A clean, granular, free-draining backfill is recommended to be placed immediately behind walls and other earth retaining structures. Backfill should meet the following grading requirements when tested in accordance with ASTM D422:

Table 5-2. Retaining Wall Backfill

Sieve Size (Square Openings)	Percent Passing by Dry Weight
3-inch	100
3/4-inch	60-100
No. 8	35-80
No. 200	0-12
Note: Per Section 203 of the ADOT Standard Specifications, 2008.	

The plasticity index of the free draining backfill should not exceed 5 when tested in accordance with the requirements of ASTM D4318.

The free-draining backfill should extend a minimum of 4.0 feet from the face of the wall and to within 2.0 feet of the ground surface. It is recommended that less permeable fill be used in the upper 2.0 feet above the free-draining wall backfill.

Drains, weep holes or other drainage means should be provided to ensure that no hydrostatic pressure buildup occurs behind retaining walls.

There is potential for settlement of wall backfill even if high quality, well-compacted granular backfill is used. It has been our experience that settlements on the order of 0.5 to 1.0 percent of the height of the backfill will occur should the backfill experience significant moisture increases. Thus, slabs or structures bearing on wall backfill could be subjected to excessive settlement. A measure to reduce the risk of settlement includes tieing rigid slabs to the walls and extending the slabs beyond the extent of the major portion of the backfill. Another option involves backfilling with a lean flowable concrete mix which achieves a 28-day compressive strength of 50 to 100 pounds per square inch (psi). This material will be relatively incompressible and can be excavated with normal construction equipment.

5.2.2 Lateral Earth Pressures

The lateral pressure against earth-retaining walls is dependent on the degree of restraint. Rigid absolutely restrained walls are recommended to be designed considering the at-rest condition. Rigid walls will be subjected to earth pressures represented by a triangular hydrostatic load diagram of 60 pounds per square foot per foot of depth.

For walls capable of rotating at least 0.001 times the wall height, soil pressures will reduce from the at-rest to the active condition. The Rankine earth pressure theory is recommended for use in calculating active lateral earth pressures on retaining walls. For smooth, vertical walls and horizontal backfill, the Rankine active earth pressure can be represented by a hydrostatic load diagram of 40 pounds per square foot per foot of depth for level backfill.

Earth pressure coefficients for wall configurations other than for vertical, smooth walls with level backfill can be provided upon request. The earth pressures provided above are actual values and should be factored as appropriate to the design condition. Earth pressures will be significantly higher if free water is present in the backfill.

5.3 Drilled Shafts

The design of drilled shafts involves the evaluation of axial and lateral capacities for a given set of loading and soil conditions. Recommendations for design of drilled shafts bearing in the firm to hard native soils were developed in accordance with AASHTO (2002) procedures.

Figure B-1 in Appendix B presents the estimated safe downward capacities of various diameters of straight, drilled, cast-in-place concrete shafts, which incorporate site-specific subsurface conditions. Analyses of drilled shaft axial capacities and estimated settlements were performed using the Shaft 5.0 computer program (Reese and Wang, 2001); output from the Shaft 5.0 program is included in Appendix B. The design chart shows the relationship between tip elevation of shaft and allowable axial load capacity for a range of shaft diameters. It is understood that the anticipated shaft diameters will vary between 1.5 and 3 feet. Allowance for the shaft weight (below existing grade) was included in the capacity computations and is reflected in the design chart. Loads due to above-grade drilled shaft or column extensions and superstructures should be considered additional dead loads. A factor of safety of 2.5 was applied to the ultimate compressive capacities to determine the safe capacities presented in the design chart. Groundwater was not included in the calculations, and the existing man-made fill (upper approximately 10 feet of site soils) was neglected in terms of providing side resistance for the shafts.

5.3.1 Vertical Capacities

Drilled shaft capacities for compressive loads were computed using the Beta (β) method recommended by AASHTO (2002, Section 4.6.5) for use in cohesionless soil under drained loading conditions. Vertical, compressive drilled shaft capacities were estimated using the governing equations for shaft compressive capacity, side resistance and tip resistance as presented in Section 4.6.5.1 of AASHTO (2002). Unit shaft tip resistance was determined using SPT N-values within a depth of two shaft diameters below the shaft tip. Settlement of drilled shafts was evaluated for design, and a maximum (ultimate) unit tip resistance of 90 kips per square foot (ksf) was utilized.

Guidelines presented in Section 4.6.5.2.4.2 of AASHTO (2002) for cohesionless soils indicate that for a drilled shaft group, regardless of the pile cap contact with the ground, the axial capacity of each shaft shall be reduced to 0.67 times that of an isolated single shaft for a center-to-center (CTC) spacing of three diameters (3D), and shall not be reduced for CTC spacing of eight diameters (8D) or greater. For shaft spacings between 3D and 8D, the reduction factor may be obtained by linear interpolation.

5.3.2 Lateral Loads

Lateral soil-structure interaction analysis of single shafts can be performed using the computer program LPILE Plus 4.0 (developed by Ensoft, Inc.; Reese and Wang, 2000). This analysis procedure estimates the lateral load-displacement behavior using a finite difference technique based on elastic beam column theory and p-y (soil reaction-displacement) curves. The behavior of the soil surrounding the laterally loaded shaft is described by lateral load-transfer functions referred to as p-y curves. The soil reaction (p) is related to the shaft deflection (y) for various depths below the ground surface. In general, these curves are nonlinear and depend on several parameters, including depth, shaft diameter and soil strength. Deflection, bending moment and shear profiles at specified intervals along the length of the shaft are computed by the program. Recommended soil strength parameters for use in LPILE analyses are provided in Table 5-3. Laboratory and boring data used to prepare the provided soil parameters are provided in the Acura report. Summary plots of direct shear data provided by Acura are available as Figures A-1 and A-2 in Appendix A.

Table 5-3. Idealized Soil Profile and Recommended LPILE Parameters

Depth Below Existing Grade	Acura Soil Classification	Dry Unit Weight	Design Friction Angle	Design Cohesion	Soil Strain Ratio	Lateral Soil Modulus, K	LPile Soil Type
(ft)	(-)	(pcf)	(degrees)	(psf)	ϵ_{50}	(pci)	(-)
0 – 10	SM (fill)	105	32	0	0	90	Sand
10 – 20	SC	110	32	500	0.010	250	Silt
20 +	SC / CL	110	32	500	0.005	400	Silt

ϵ_{50}: Strain corresponding to one-half of maximum principal stress difference (from LPile Manual for static loading; for cyclic loading use 50% of listed value).
K: Variation of lateral soil modulus with depth (from LPile Manual for static loading; for cyclic loading use 50% of listed value).
pcf - pounds/cubic foot; psf - pounds/square foot; pci - pounds/cubic inch

According to Section 4.6.5.6.1.4 of AASHTO (2002), laterally-loaded drilled shafts in a group may be considered to act individually when the CTC spacing is greater than 2.5D in the direction normal to loading and greater than 8D in the direction parallel to loading. For shaft layouts not conforming to these criteria, the effect of shaft interaction should be considered in the design. In accordance with current ADOT Materials Group, Geotechnical Design Section policy, the effects of group action for in-line (parallel) CTC spacing less than 8 diameters may be considered by using the following ratios and boundary conditions:

Table 5-4. Pile Group Action Conditions

Boundary Condition	Center-to-Center (CTC) Shaft Spacing (shaft diameters)	Group Efficiency Factor
Pile Cap / footing in intimate contact with soil	3.0 8.0	0.8 1.0
Pile cap / footing NOT in intimate contact with soil	3.0 8.0	0.6 1.0

Efficiency factors for shafts spaced at distances between 3D and 8D should be interpolated linearly. The efficiency factors should be applied equally to all shafts within the group regardless of location within the group.

5.3.3 Estimated Settlements

Settlement analysis of individual drilled shafts was performed utilizing methods presented in Section 4.6.5.5 of AASHTO (2002) for short-term settlement of axially-loaded shafts in cohesionless soils, which are derived from Reese and O'Neill (1988) and O'Neill and Reese (1999). The iterative procedure involves estimating the proportions of ultimate side resistance and ultimate tip resistance, which are mobilized at various magnitudes of shaft settlement, as a percentage of the shaft diameter. The total axial load on the shaft is therefore the sum of the mobilized side and tip resistances and is compared to the applied axial load. The estimated settlement is varied until the mobilized total resistance and the applied load are in reasonable agreement.

Short-term shaft settlements are anticipated to be immediate, due to the moderately firm to hard or medium dense to very dense site soils and should be essentially complete following initial application of live load.

Estimated short-term settlement of individual drilled shafts should not exceed one inch, provided that the foundations are designed and constructed in accordance with criteria presented herein. Long-term settlement of drilled shafts is not anticipated to be of significant magnitude, due to the favorable support characteristics of the generally moderately firm to hard or medium dense to very dense, variably cemented native site soils.

5.3.4 Construction Considerations

It is anticipated that excavations for shafts will encounter caving and sloughing of uncemented, sandy existing fill and sand and silty sand native soils. Should significant sloughing occur, concrete quantities will be considerably higher than those based on neat excavation volumes. Stabilization techniques may be required to assure proper construction of the drilled shafts. Casing the excavation appears to be the most feasible method of stabilizing the pier excavations, provided obstructions are not encountered. Slurry-assisted construction is an option, although usually not used above the static groundwater level. Slurry-assisted construction or casing and concreting, if selected, should be in accordance with current Arizona Department of Transportation (ADOT) Standard Specifications (ADOT, 2008) and applicable special provisions.

It is recommended that contract documents be written in such a manner that payment will be made on the basis of neat-line volume or linear footage in the case of straight shafts. In this manner, the Contractor will be responsible for selecting and employing techniques for hole

stabilization and for concrete overruns. Where drilled shaft CTC spacings are closer than three diameters, the concrete should be allowed to set a minimum of eight hours before adjacent shafts are excavated.

It is further recommended that the drilled shaft excavations be inspected by a representative of the geotechnical engineer to verify proper bearing materials. It may be necessary to vary the depths of the shafts based on the bearing stratum variations.

5.4 Corrosion Potential

Ten (10) samples of near-surface site soils were tested relative to their potential for corrosion of concrete in accordance with Arizona Test Methods 733 and 736 for soluble sulfate and chloride contents, respectively. Results of the tests are presented in the Acura data report in Appendix C. Total soluble sulfate values ranged from 13 to 293 parts per million (ppm), which indicates the water-leachable or "available" sulfate content. These results were compared to Table 4.3.1 (Requirements for Concrete Exposed to Sulfate-Containing Solutions), specifically the "Sulfate (SO_4) in water, ppm" column in the table, in Section 4.3 of the American Concrete Institute (ACI) Building Code Requirements for Structural Concrete (ACI 318-05/318R-05, 2005). All test results were found to be "negligible" to "moderate" (low end) in terms of sulfate exposure, indicating that Type I or Type II Portland cement would be adequate for concrete structures in contact with these materials.

Chloride test results for the samples ranged from 38 to 672 ppm. Regarding chloride attack, Section 4.4.2 of ACI 318-05/318R-05 (2005) indicates that when concrete is exposed to external sources of chlorides, the water:cementitious materials ratio, concrete strength and minimum concrete cover requirements should be evaluated by the designer. The magnitude of the minimum or threshold concentration of chloride in the external source is not specified by ACI.

6.0 LIMITATIONS

This report documents the findings and conclusions of HDR Engineering, Inc., for the geotechnical aspects related to the design of the Crosscut Canal Multi-Use Path pedestrian bridge and retaining walls between Thomas and Indian School Roads in Scottsdale, Arizona. It has been prepared for the use of HDR Engineering, Inc. and the City of Scottsdale for specific application to this project, in accordance with generally accepted engineering practice.

No warranty, expressed or implied, is made. Any results of engineering analyses or recommendations submitted herein are based on field explorations performed at the locations indicated, on specific laboratory tests on individual samples taken during the investigation, and information obtained from outside sources. The report and analyses do not reflect variations in soil or rock conditions that may occur between the subsurface locations actually explored or tested. Groundwater elevations measured at the time of subsurface exploration may not reflect variations that could occur between borings or at other points in time.

Variations in conditions, if any, may become evident during the construction period, at which time, a re-evaluation of the recommendations may become necessary. In the event of such changes, the recommendations and changes hereto should be reviewed by the preparers of this report.

7.0 REFERENCES

American Association of State Highway and Transportation Officials (AASHTO), 2002, *Standard Specifications for Highway Bridges, 17th Edition*, Washington, D.C.

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O'Neil, W. M., Reese, C. L., 1999, *Drilled Shafts: Construction Procedures and Design Methods*. Publication No. FHWA-IF-99-025.

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Reese, L.C. and Wang, S.T. (2000), Computer Program Shaft, Version 5.0: A Program for the Study of Drilled Shafts Under Axial Loads, ENSOFT, Austin, Texas.

United States Geological Survey (USGS), 2002, National Seismic Hazard Mapping Project, Hazard Map Analysis Tool, Probabilistic Hazard Lookup by Zip Code, (<http://eqint.cr.usgs.gov/eq-men/html/zipcode-06.html>), accessed November 2007.

APPENDIX A

Direct Shear Plots

FIGURE A-1
Direct Shear Test Results
Fill Soils (SC)

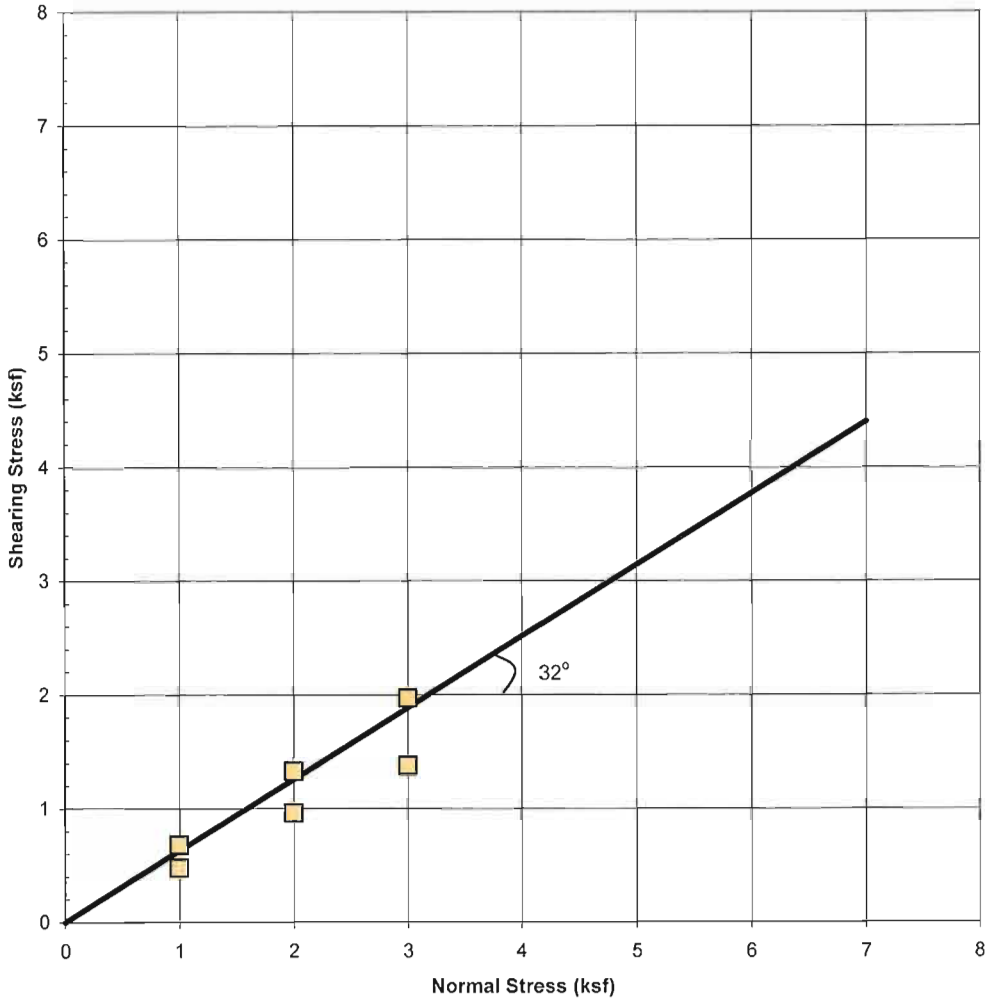
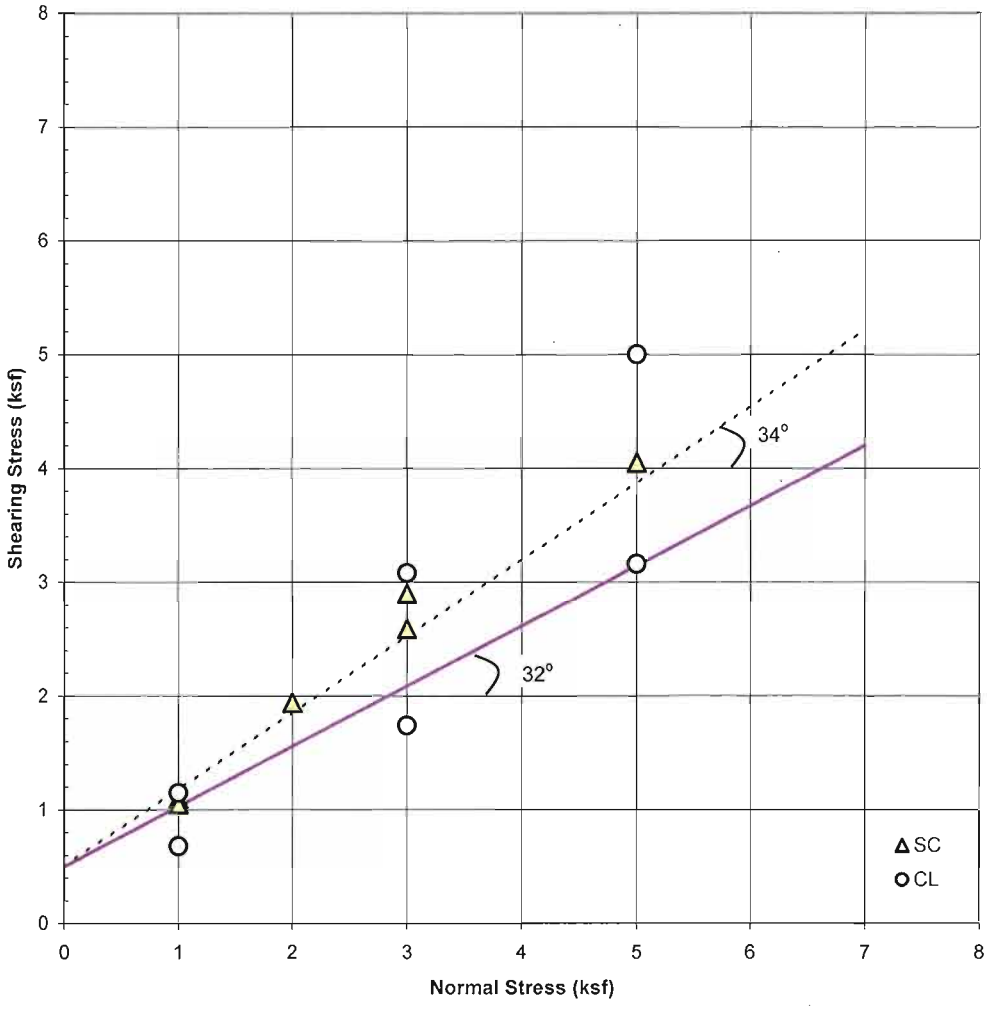


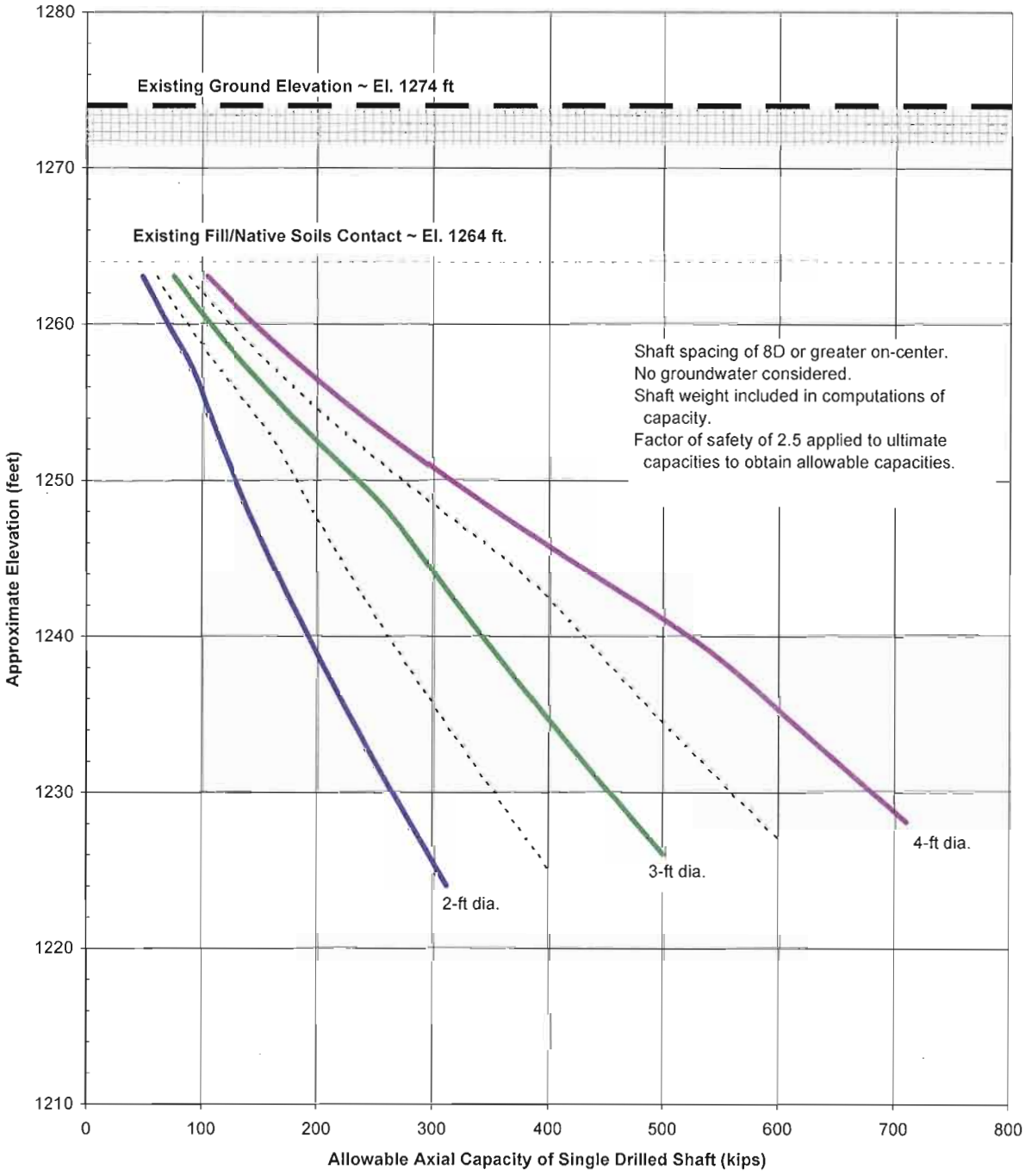
FIGURE A-2
Direct Shear Test Results
SC and CL Soils



APPENDIX B

Axial Capacity of Drilled Shaft Design Chart and Shaft 5.0 Output

Figure B-1
Design Chart for Axial Capacity of Drilled Shafts
Pedestrian Bridge Crosscut Canal Multi-Use Path
Thomas to Indian School Roads



VERTICALLY LOADED DRILLED SHAFT ANALYSIS PROGRAM SHAFT
VERSION 5.0 (C) COPYRIGHT ENSOFT,INC. 1989,1995,1998,2001,2003

Crosscut Canal Bridge

PROPOSED DEPTH = 55.0 FT

NUMBER OF LAYERS = 1

WATER TABLE DEPTH = 99.0 FT.

FACTOR OF SAFETY APPLIED TO THE TOTAL ULTIMATE CAPACITY = 2.50

FACTOR OF SAFETY APPLIED TO THE ULTIMATE BASE CAPACITY = 2.50

SOIL INFORMATION

LAYER NO 1----SAND

AT THE TOP

SKIN FRICTION COEFFICIENT- BETA	= 0.120E+01
UNDRAINED SHEAR STRENGTH, LB/SQ FT	= 0.000E+00
INTERNAL FRICTION ANGLE, DEG.	= 0.000E+00
BLOWS PER FOOT FROM STANDARD PENETRATION TEST	= 0.400E+02
SOIL UNIT WEIGHT, LB/CU FT	= 0.105E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT	= 0.100E+11
DEPTH, FT	= 0.000E+00

AT THE BOTTOM

SKIN FRICTION COEFFICIENT- BETA	= 0.499E+00
UNDRAINED SHEAR STRENGTH, LB/SQ FT	= 0.000E+00
INTERNAL FRICTION ANGLE, DEG.	= 0.000E+00
BLOWS PER FOOT FROM STANDARD PENETRATION TEST	= 0.650E+02
SOIL UNIT WEIGHT, LB/CU FT	= 0.115E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT	= 0.100E+11
DEPTH, FT	= 0.550E+02

DRILLED SHAFT INFORMATION

DIAMETER OF STEM	=	2.000	FT.
DIAMETER OF BASE	=	2.000	FT.
END OF STEM TO BASE	=	0.000	FT.
ANGLE OF BELL	=	0.000	DEG.
IGNORED TOP PORTION	=	0.000	FT.
IGNORED BOTTOM PORTION	=	0.000	FT.
AREA OF ONE PERCENT STEEL	=	4.524	SQ.IN.
ELASTIC MODULUS, Ec	=	0.310E+07	LB/SQ IN
VOLUME OF UNDERREAM	=	0.000	CU.YDS.

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (FOR UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
QBD = TOTAL ALLOWABLE LOAD USING A FACTOR OF SAFETY APPLIED TO THE ULTIMATE BASE RESISTANCE;
QDN = TOTAL ALLOWABLE LOAD USING FACTORS OF SAFETY APPLIED TO THE ULTIMATE SIDE RESISTANCE AND THE ULTIMATE BASE RESISTANCE.

LENGTH (FEET)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	QBD (TONS)	QDN (TONS)	QU/VOLUME (TONS/CU.YDS)
1.0	0.12	0.40	16.38	16.78	6.95	6.71	144.16
2.0	0.23	1.19	20.55	21.74	9.41	8.70	93.40
3.0	0.35	2.38	24.80	27.18	12.30	10.87	77.87
4.0	0.47	3.97	29.14	33.11	15.63	13.25	71.14
5.0	0.58	5.96	33.57	39.53	19.39	15.81	67.93
6.0	0.70	8.29	38.08	46.37	23.52	18.55	66.40
7.0	0.81	10.95	42.67	53.62	28.02	21.45	65.82
8.0	0.93	13.92	47.36	61.28	32.86	24.51	65.82
9.0	1.05	17.20	52.12	69.32	38.05	27.73	66.19
10.0	1.16	20.77	56.98	77.75	43.56	31.10	66.81
11.0	1.28	24.63	61.92	86.55	49.40	34.62	67.61
12.0	1.40	28.76	66.94	95.71	55.54	38.28	68.54
13.0	1.51	33.16	72.05	105.22	61.98	42.09	69.55
14.0	1.63	37.82	77.25	115.07	68.72	46.03	70.63
15.0	1.75	42.72	82.53	125.25	75.73	50.10	71.76
16.0	1.86	47.86	87.90	135.76	83.02	54.30	72.92
17.0	1.98	53.24	91.69	144.92	89.91	57.97	73.26
18.0	2.09	58.83	93.53	152.36	96.24	60.94	72.74
19.0	2.21	64.64	94.38	159.03	102.40	63.61	71.92
20.0	2.33	70.67	95.24	165.91	108.76	66.36	71.28
21.0	2.44	76.89	96.10	172.98	115.33	69.19	70.79
22.0	2.56	83.31	96.95	180.26	122.09	72.10	70.41
23.0	2.68	89.91	97.81	187.72	129.03	75.09	70.14
24.0	2.79	96.69	98.67	195.36	136.16	78.14	69.95
25.0	2.91	103.65	99.52	203.17	143.46	81.27	69.84
26.0	3.03	110.77	100.38	211.16	150.93	84.46	69.79
27.0	3.14	118.06	101.24	219.30	158.56	87.72	69.80
28.0	3.26	125.50	102.09	227.59	166.34	91.04	69.85

29.0	3.37	133.09	102.95	236.04	174.27	94.42	69.94
30.0	3.49	140.82	103.81	244.63	182.34	97.85	70.07
31.0	3.61	148.68	104.67	253.35	190.55	101.34	70.23
32.0	3.72	156.68	105.52	262.20	198.89	104.88	70.41
33.0	3.84	164.80	106.38	271.18	207.35	108.47	70.61
34.0	3.96	173.04	107.24	280.27	215.93	112.11	70.84
35.0	4.07	181.39	108.09	289.48	224.62	115.79	71.07
36.0	4.19	189.84	108.95	298.79	233.42	119.52	71.32
37.0	4.31	198.40	109.81	308.21	242.33	123.28	71.58
38.0	4.42	207.06	110.66	317.72	251.32	127.09	71.85
39.0	4.54	215.80	111.52	327.32	260.41	130.93	72.12
40.0	4.65	224.63	112.38	337.01	269.58	134.80	72.40
41.0	4.77	233.54	113.23	346.78	278.84	138.71	72.68
42.0	4.89	242.53	114.09	356.62	288.16	142.65	72.96
43.0	5.00	251.58	114.95	366.53	297.56	146.61	73.25
44.0	5.12	260.70	115.81	376.50	307.02	150.60	73.53
45.0	5.24	269.87	116.66	386.53	316.54	154.61	73.81
46.0	5.35	279.10	117.52	396.62	326.11	158.65	74.09
47.0	5.47	288.38	118.38	406.76	335.73	162.70	74.37
48.0	5.59	297.70	119.23	416.93	345.39	166.77	74.64
49.0	5.70	307.06	120.09	427.15	355.10	170.86	74.91
50.0	5.82	316.46	120.95	437.40	364.83	174.96	75.17

TOP LOAD ton	TOP MOVEMENT IN.	TIP LOAD ton	TIP MOVEMENT IN.
0.7170E+00	0.4300E-03	0.1764E-01	0.1000E-03
0.7170E+01	0.4300E-02	0.1764E+00	0.1000E-02
0.1804E+02	0.1077E-01	0.4410E+00	0.2500E-02
0.3634E+02	0.2165E-01	0.8819E+00	0.5000E-02
0.5446E+02	0.3252E-01	0.1323E+01	0.7500E-02
0.7177E+02	0.4326E-01	0.1764E+01	0.1000E-01
0.1529E+03	0.1001E+00	0.4410E+01	0.2500E-01
0.2248E+03	0.1669E+00	0.8819E+01	0.5000E-01
0.2610E+03	0.2143E+00	0.1323E+02	0.7500E-01
0.2845E+03	0.2544E+00	0.1764E+02	0.1000E+00
0.3372E+03	0.4440E+00	0.4314E+02	0.2500E+00
0.3628E+03	0.7162E+00	0.6959E+02	0.5000E+00
0.3834E+03	0.9839E+00	0.9056E+02	0.7500E+00
0.4016E+03	0.1250E+01	0.1092E+03	0.1000E+01
0.4670E+03	0.2706E+01	0.1766E+03	0.2400E+01

DRILLED SHAFT INFORMATION

DIAMETER OF STEM	=	2.500	FT.
DIAMETER OF BASE	=	2.500	FT.
END OF STEM TO BASE	=	0.000	FT.
ANGLE OF BELL	=	0.000	DEG.
IGNORED TOP PORTION	=	0.000	FT.
IGNORED BOTTOM PORTION	=	0.000	FT.
AREA OF ONE PERCENT STEEL	=	7.069	SQ.IN.
ELASTIC MODULUS, Ec	=	0.310E+07	LB/SQ IN
VOLUME OF UNDERREAM	=	0.000	CU.YDS.

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (FOR UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
QBD = TOTAL ALLOWABLE LOAD USING A FACTOR OF SAFETY APPLIED TO THE ULTIMATE BASE RESISTANCE;
QDN = TOTAL ALLOWABLE LOAD USING FACTORS OF SAFETY APPLIED TO THE ULTIMATE SIDE RESISTANCE AND THE ULTIMATE BASE RESISTANCE.

LENGTH (FEET)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	QBD (TONS)	QDN (TONS)	QU/VOLUME (TONS/CU.YDS)
1.0	0.18	0.50	23.53	24.03	9.91	9.61	132.14
2.0	0.36	1.49	28.80	30.29	13.01	12.12	83.30
3.0	0.55	2.98	34.18	37.16	16.65	14.86	68.13
4.0	0.73	4.97	39.67	44.64	20.83	17.85	61.37
5.0	0.91	7.45	45.27	52.71	25.56	21.09	57.98
6.0	1.09	10.36	50.97	61.33	30.75	24.53	56.21
7.0	1.27	13.68	56.78	70.46	36.39	28.18	55.36
8.0	1.45	17.40	62.69	80.09	42.48	32.04	55.06
9.0	1.64	21.50	68.71	90.21	48.98	36.08	55.13
10.0	1.82	25.97	74.84	100.81	55.90	40.32	55.44
11.0	2.00	30.79	81.08	111.87	63.22	44.75	55.93
12.0	2.18	35.96	87.42	123.38	70.92	49.35	56.55
13.0	2.36	41.45	93.88	135.33	79.00	54.13	57.25
14.0	2.55	47.27	100.43	147.71	87.45	59.08	58.02
15.0	2.73	53.40	107.10	160.50	96.24	64.20	58.85
16.0	2.91	59.83	113.87	173.70	105.38	69.48	59.71
17.0	3.09	66.54	120.75	187.30	114.84	74.92	60.59
18.0	3.27	73.54	127.74	201.28	124.64	80.51	61.50
19.0	3.45	80.81	134.83	215.64	134.74	86.26	62.42
20.0	3.64	88.33	142.03	230.37	145.15	92.15	63.35
21.0	3.82	96.11	147.68	243.79	155.18	97.51	63.85
22.0	4.00	104.13	151.45	255.59	164.71	102.23	63.89
23.0	4.18	112.39	153.61	266.00	173.83	106.40	63.60
24.0	4.36	120.87	154.95	275.82	182.85	110.33	63.20
25.0	4.55	129.56	156.29	285.85	192.08	114.34	62.88
26.0	4.73	138.47	157.63	296.10	201.52	118.44	62.63
27.0	4.91	147.58	158.97	306.54	211.16	122.62	62.44
28.0	5.09	156.87	160.31	317.18	221.00	126.87	62.30
29.0	5.27	166.36	161.64	328.00	231.02	131.20	62.20
30.0	5.45	176.02	162.98	339.00	241.21	135.60	62.15
31.0	5.64	185.85	164.32	350.18	251.58	140.07	62.12
32.0	5.82	195.85	165.66	361.51	262.11	144.60	62.13
33.0	6.00	206.00	167.00	373.00	272.80	149.20	62.16
34.0	6.18	216.29	168.34	384.63	283.63	153.85	62.22
35.0	6.36	226.73	169.68	396.41	294.60	158.56	62.29
36.0	6.55	237.30	171.02	408.32	305.71	163.33	62.38
37.0	6.73	248.00	172.36	420.36	316.95	168.14	62.48
38.0	6.91	258.82	173.69	432.52	328.30	173.01	62.60
39.0	7.09	269.75	175.03	444.79	339.77	177.91	62.72

40.0	7.27	280.79	176.37	457.16	351.34	182.87	62.86
41.0	7.45	291.93	177.71	469.64	363.01	187.86	63.00
42.0	7.64	303.16	179.05	482.21	374.78	192.88	63.14
43.0	7.82	314.47	180.39	494.86	386.63	197.95	63.29
44.0	8.00	325.87	181.73	507.60	398.56	203.04	63.45
45.0	8.18	337.34	183.07	520.41	410.57	208.16	63.60
46.0	8.36	348.88	184.41	533.28	422.64	213.31	63.76
47.0	8.55	360.47	185.74	546.22	434.77	218.49	63.92
48.0	8.73	372.13	187.08	559.21	446.96	223.68	64.07
49.0	8.91	383.83	188.42	572.25	459.20	228.90	64.23

TOP LOAD ton	TOP MOVEMENT IN.	TIP LOAD ton	TIP MOVEMENT IN.
0.5913E+00	0.2825E-03	0.2198E-01	0.1000E-03
0.5913E+01	0.2825E-02	0.2198E+00	0.1000E-02
0.1478E+02	0.7062E-02	0.5496E+00	0.2500E-02
0.2972E+02	0.1415E-01	0.1099E+01	0.5000E-02
0.4471E+02	0.2126E-01	0.1649E+01	0.7500E-02
0.5969E+02	0.2837E-01	0.2198E+01	0.1000E-01
0.1422E+03	0.6983E-01	0.5496E+01	0.2500E-01
0.2330E+03	0.1264E+00	0.1099E+02	0.5000E-01
0.2852E+03	0.1711E+00	0.1649E+02	0.7500E-01
0.3186E+03	0.2089E+00	0.2198E+02	0.1000E+00
0.4085E+03	0.3978E+00	0.5433E+02	0.2500E+00
0.4519E+03	0.6710E+00	0.9625E+02	0.5000E+00
0.4758E+03	0.9340E+00	0.1206E+03	0.7500E+00
0.5018E+03	0.1198E+01	0.1470E+03	0.1000E+01
0.6271E+03	0.3266E+01	0.2751E+03	0.3000E+01

DRILLED SHAFT INFORMATION

DIAMETER OF STEM	=	3.000	FT.
DIAMETER OF BASE	=	3.000	FT.
END OF STEM TO BASE	=	0.000	FT.
ANGLE OF BELL	=	0.000	DEG.
IGNORED TOP PORTION	=	0.000	FT.
IGNORED BOTTOM PORTION	=	0.000	FT.
AREA OF ONE PERCENT STEEL	=	10.180	SQ.IN.
ELASTIC MODULUS, Ec	=	0.310E+07	LB/SQ IN
VOLUME OF UNDERREAM	=	0.000	CU.YDS.

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (FOR UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
QBD = TOTAL ALLOWABLE LOAD USING A FACTOR OF SAFETY
APPLIED TO THE ULTIMATE BASE RESISTANCE;

QDN = TOTAL ALLOWABLE LOAD USING FACTORS OF SAFETY
APPLIED TO THE ULTIMATE SIDE RESISTANCE AND
THE ULTIMATE BASE RESISTANCE.

LENGTH (FEET)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	QBD (TONS)	QDN (TONS)	QU/VOLUME (TONS/CU.YDS)
1.0	0.26	0.59	31.90	32.49	13.35	13.00	124.10
2.0	0.52	1.79	38.30	40.09	17.11	16.03	76.55
3.0	0.79	3.57	44.83	48.40	21.51	19.36	61.62
4.0	1.05	5.96	51.49	57.45	26.55	22.98	54.85
5.0	1.31	8.94	58.28	67.21	32.25	26.89	51.34
6.0	1.57	12.43	65.19	77.62	38.51	31.05	49.41
7.0	1.83	16.42	72.24	88.65	45.31	35.46	48.37
8.0	2.09	20.88	79.41	100.29	52.64	40.12	47.88
9.0	2.36	25.80	86.71	112.51	60.48	45.00	47.74
10.0	2.62	31.16	94.14	125.30	68.82	50.12	47.85
11.0	2.88	36.95	101.70	138.64	77.63	55.46	48.14
12.0	3.14	43.15	109.38	152.53	86.90	61.01	48.55
13.0	3.40	49.74	117.20	166.94	96.62	66.78	49.05
14.0	3.67	56.73	125.14	181.87	106.78	72.75	49.61
15.0	3.93	64.08	133.22	197.30	117.37	78.92	50.23
16.0	4.19	71.79	141.42	213.21	128.36	85.28	50.89
17.0	4.45	79.85	149.75	229.60	139.75	91.84	51.58
18.0	4.71	88.25	158.20	246.45	151.53	98.58	52.29
19.0	4.97	96.97	166.79	263.76	163.68	105.50	53.02
20.0	5.24	106.00	175.51	281.51	176.20	112.60	53.76
21.0	5.50	115.33	184.35	299.68	189.07	119.87	54.50
22.0	5.76	124.96	193.32	318.28	202.29	127.31	55.25
23.0	6.02	134.86	202.42	337.29	215.83	134.91	56.01
24.0	6.28	145.04	211.65	356.69	229.70	142.68	56.76
25.0	6.55	155.48	219.39	374.86	243.23	149.95	57.27
26.0	6.81	166.16	225.37	391.53	256.31	156.61	57.51
27.0	7.07	177.09	229.34	406.43	268.83	162.57	57.49
28.0	7.33	188.25	231.95	420.20	281.03	168.08	57.32
29.0	7.59	199.63	233.88	433.51	293.18	173.40	57.09
30.0	7.86	211.23	235.81	447.03	305.55	178.81	56.91
31.0	8.12	223.02	237.73	460.76	318.12	184.30	56.77
32.0	8.38	235.02	239.66	474.68	330.88	189.87	56.65
33.0	8.64	247.20	241.59	488.79	343.83	195.51	56.57
34.0	8.90	259.55	243.52	503.07	356.96	201.23	56.51
35.0	9.16	272.08	245.45	517.53	370.26	207.01	56.47
36.0	9.43	284.77	247.37	532.14	383.72	212.86	56.45
37.0	9.69	297.60	249.30	546.91	397.32	218.76	56.45
38.0	9.95	310.59	251.23	561.82	411.08	224.73	56.47
39.0	10.21	323.70	253.16	576.86	424.97	230.74	56.49
40.0	10.47	336.95	255.09	592.03	438.98	236.81	56.53
41.0	10.74	350.31	257.01	607.33	453.12	242.93	56.57
42.0	11.00	363.79	258.94	622.73	467.37	249.09	56.63
43.0	11.26	377.37	260.87	638.24	481.72	255.30	56.69
44.0	11.52	391.04	262.80	653.84	496.16	261.54	56.75
45.0	11.78	404.81	264.73	669.53	510.70	267.81	56.82
46.0	12.04	418.65	266.65	685.31	525.31	274.12	56.90
47.0	12.31	432.57	268.58	701.15	540.00	280.46	56.98
48.0	12.57	446.55	270.51	717.06	554.76	286.82	57.05

TOP LOAD ton	TOP MOVEMENT IN.	TIP LOAD ton	TIP MOVEMENT IN.
0.5261E+00	0.2153E-03	0.2630E-01	0.1000E-03
0.5261E+01	0.2153E-02	0.2630E+00	0.1000E-02
0.1315E+02	0.5381E-02	0.6575E+00	0.2500E-02
0.2630E+02	0.1076E-01	0.1315E+01	0.5000E-02
0.3959E+02	0.1616E-01	0.1972E+01	0.7500E-02
0.5287E+02	0.2156E-01	0.2630E+01	0.1000E-01
0.1311E+03	0.5388E-01	0.6575E+01	0.2500E-01
0.2308E+03	0.1020E+00	0.1315E+02	0.5000E-01
0.3000E+03	0.1443E+00	0.1972E+02	0.7500E-01
0.3442E+03	0.1808E+00	0.2630E+02	0.1000E+00
0.4709E+03	0.3663E+00	0.6522E+02	0.2500E+00
0.5370E+03	0.6396E+00	0.1228E+03	0.5000E+00
0.5689E+03	0.9014E+00	0.1557E+03	0.7500E+00
0.5996E+03	0.1163E+01	0.1867E+03	0.1000E+01
0.8042E+03	0.3838E+01	0.3949E+03	0.3600E+01

DRILLED SHAFT INFORMATION

DIAMETER OF STEM	=	3.500	FT.
DIAMETER OF BASE	=	3.500	FT.
END OF STEM TO BASE	=	0.000	FT.
ANGLE OF BELL	=	0.000	DEG.
IGNORED TOP PORTION	=	0.000	FT.
IGNORED BOTTOM PORTION	=	0.000	FT.
AREA OF ONE PERCENT STEEL	=	13.856	SQ.IN.
ELASTIC MODULUS, Ec	=	0.310E+07	LB/SQ IN
VOLUME OF UNDERREAM	=	0.000	CU.YDS.

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (FOR UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
QBD = TOTAL ALLOWABLE LOAD USING A FACTOR OF SAFETY
APPLIED TO THE ULTIMATE BASE RESISTANCE;
QDN = TOTAL ALLOWABLE LOAD USING FACTORS OF SAFETY
APPLIED TO THE ULTIMATE SIDE RESISTANCE AND
THE ULTIMATE BASE RESISTANCE.

LENGTH (FEET)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	QBD (TONS)	QDN (TONS)	QU/VOLUME (TONS/CU.YDS)
1.0	0.36	0.69	41.62	42.32	17.34	16.93	118.74
2.0	0.71	2.08	49.18	51.26	21.76	20.51	71.92
3.0	1.07	4.17	56.89	61.06	26.92	24.42	57.11
4.0	1.43	6.95	64.74	71.69	32.85	28.68	50.29
5.0	1.78	10.43	72.75	83.18	39.53	33.27	46.68
6.0	2.14	14.50	80.90	95.41	46.87	38.16	44.62
7.0	2.49	19.15	89.21	108.37	54.84	43.35	43.44

8.0	2.85	24.36	97.67	122.03	63.43	48.81	42.80
9.0	3.21	30.10	106.27	136.37	72.61	54.55	42.52
10.0	3.56	36.35	115.03	151.38	82.36	60.55	42.48
11.0	3.92	43.10	123.93	167.04	92.68	66.82	42.61
12.0	4.28	50.34	132.99	183.33	103.53	73.33	42.87
13.0	4.63	58.03	142.20	200.23	114.91	80.09	43.22
14.0	4.99	66.18	151.55	217.73	126.80	87.09	43.64
15.0	5.35	74.76	161.06	235.82	139.18	94.33	44.11
16.0	5.70	83.76	170.71	254.47	152.04	101.79	44.63
17.0	6.06	93.16	180.52	273.68	165.37	109.47	45.17
18.0	6.41	102.96	190.47	293.43	179.15	117.37	45.74
19.0	6.77	113.13	200.58	313.71	193.36	125.48	46.33
20.0	7.13	123.67	210.84	334.50	208.00	133.80	46.93
21.0	7.48	134.55	221.24	355.80	223.05	142.32	47.54
22.0	7.84	145.78	231.80	377.58	238.50	151.03	48.16
23.0	8.20	157.34	242.50	399.84	254.34	159.94	48.78
24.0	8.55	169.21	253.36	422.57	270.56	169.03	49.40
25.0	8.91	181.39	264.36	445.75	287.13	178.30	50.03
26.0	9.27	193.86	275.52	469.37	304.06	187.75	50.66
27.0	9.62	206.61	286.82	493.43	321.33	197.37	51.28
28.0	9.98	219.62	298.28	517.90	338.94	207.16	51.90
29.0	10.34	232.90	308.23	541.13	356.20	216.45	52.36
30.0	10.69	246.43	316.45	562.88	373.01	225.15	52.65
31.0	11.05	260.19	322.69	582.89	389.27	233.15	52.76
32.0	11.40	274.19	327.13	601.32	405.04	240.53	52.73
33.0	11.76	288.40	330.37	618.76	420.54	247.51	52.61
34.0	12.12	302.81	332.99	635.81	436.01	254.32	52.47
35.0	12.47	317.43	335.62	653.04	451.67	261.22	52.35
36.0	12.83	332.23	338.24	670.47	467.52	268.19	52.26
37.0	13.19	347.20	340.87	688.07	483.55	275.23	52.18
38.0	13.54	362.35	343.49	705.84	499.75	282.34	52.12
39.0	13.90	377.65	346.11	723.77	516.10	289.51	52.07
40.0	14.26	393.11	348.74	741.85	532.60	296.74	52.04
41.0	14.61	408.70	351.36	760.06	549.24	304.02	52.02
42.0	14.97	424.42	353.99	778.41	566.02	311.36	52.00
43.0	15.32	440.26	356.61	796.87	582.91	318.75	52.00
44.0	15.68	456.22	359.24	815.45	599.91	326.18	52.00
45.0	16.04	472.28	361.86	834.14	617.02	333.65	52.01
46.0	16.39	488.43	364.48	852.91	634.22	341.16	52.03
47.0	16.75	504.66	367.11	871.77	651.51	348.71	52.05

TOP LOAD	TOP MOVEMENT	TIP LOAD	TIP MOVEMENT
ton	IN.	ton	IN.
0.4859E+00	0.1789E-03	0.3059E-01	0.1000E-03
0.4859E+01	0.1789E-02	0.3059E+00	0.1000E-02
0.1215E+02	0.4473E-02	0.7648E+00	0.2500E-02
0.2430E+02	0.8945E-02	0.1530E+01	0.5000E-02
0.3645E+02	0.1342E-01	0.2294E+01	0.7500E-02
0.4870E+02	0.1790E-01	0.3059E+01	0.1000E-01
0.1221E+03	0.4480E-01	0.7648E+01	0.2500E-01
0.2253E+03	0.8716E-01	0.1530E+02	0.5000E-01
0.3063E+03	0.1263E+00	0.2294E+02	0.7500E-01
0.3604E+03	0.1612E+00	0.3059E+02	0.1000E+00
0.5239E+03	0.3435E+00	0.7613E+02	0.2500E+00
0.6153E+03	0.6157E+00	0.1462E+03	0.5000E+00

0.6612E+03	0.8780E+00	0.1943E+03	0.7500E+00
0.6947E+03	0.1137E+01	0.2282E+03	0.1000E+01
0.9982E+03	0.4417E+01	0.5360E+03	0.4200E+01

DRILLED SHAFT INFORMATION

DIAMETER OF STEM	=	4.000	FT.
DIAMETER OF BASE	=	4.000	FT.
END OF STEM TO BASE	=	0.000	FT.
ANGLE OF BELL	=	0.000	DEG.
IGNORED TOP PORTION	=	0.000	FT.
IGNORED BOTTOM PORTION	=	0.000	FT.
AREA OF ONE PERCENT STEEL	=	18.098	SQ.IN.
ELASTIC MODULUS, Ec	=	0.310E+07	LB/SQ IN
VOLUME OF UNDERREAM	=	0.000	CU.YDS.

PREDICTED RESULTS

QS = ULTIMATE SIDE RESISTANCE;
QB = ULTIMATE BASE RESISTANCE;
WT = WEIGHT OF DRILLED SHAFT (FOR UPLIFT CAPACITY ONLY);
QU = TOTAL ULTIMATE RESISTANCE;
QBD = TOTAL ALLOWABLE LOAD USING A FACTOR OF SAFETY APPLIED TO THE ULTIMATE BASE RESISTANCE;
QDN = TOTAL ALLOWABLE LOAD USING FACTORS OF SAFETY APPLIED TO THE ULTIMATE SIDE RESISTANCE AND THE ULTIMATE BASE RESISTANCE.

LENGTH (FEET)	VOLUME (CU.YDS)	QS (TONS)	QB (TONS)	QU (TONS)	QBD (TONS)	QDN (TONS)	QU/VOLUME (TONS/CU.YDS)
1.0	0.47	0.79	52.60	53.40	21.83	21.36	114.71
2.0	0.93	2.38	61.34	63.72	26.92	25.49	68.44
3.0	1.40	4.76	70.24	75.01	32.86	30.00	53.71
4.0	1.86	7.95	79.32	87.27	39.67	34.91	46.87
5.0	2.33	11.92	88.57	100.49	47.35	40.20	43.18
6.0	2.79	16.58	97.99	114.57	55.77	45.83	41.02
7.0	3.26	21.89	107.58	129.47	64.92	51.79	39.74
8.0	3.72	27.84	117.35	145.18	74.78	58.07	38.99
9.0	4.19	34.40	127.28	161.68	85.31	64.67	38.59
10.0	4.65	41.55	137.39	178.93	96.50	71.57	38.44
11.0	5.12	49.26	147.66	196.93	108.33	78.77	38.46
12.0	5.59	57.53	158.11	215.64	120.77	86.26	38.61
13.0	6.05	66.33	168.73	235.06	133.82	94.02	38.84
14.0	6.52	75.63	179.52	255.16	147.44	102.06	39.15
15.0	6.98	85.44	190.49	275.92	161.63	110.37	39.52
16.0	7.45	95.72	201.62	297.34	176.37	118.94	39.92
17.0	7.91	106.47	212.92	319.40	191.64	127.76	40.36
18.0	8.38	117.66	224.40	342.07	207.42	136.83	40.83
19.0	8.84	129.29	236.05	365.34	223.71	146.14	41.31
20.0	9.31	141.33	247.87	389.20	240.48	155.68	41.81
21.0	9.78	153.78	259.86	413.64	257.72	165.46	42.32

22.0	10.24	166.61	272.02	438.63	275.42	175.45	42.83
23.0	10.71	179.82	284.36	464.17	293.56	185.67	43.36
24.0	11.17	193.39	296.86	490.25	312.13	196.10	43.88
25.0	11.64	207.30	309.54	516.84	331.12	206.74	44.41
26.0	12.10	221.55	322.39	543.94	350.50	217.57	44.94
27.0	12.57	236.12	335.41	571.53	370.28	228.61	45.47
28.0	13.03	251.00	348.60	599.60	390.44	239.84	46.00
29.0	13.50	266.17	361.96	628.13	410.96	251.25	46.53
30.0	13.96	281.63	375.49	657.13	431.83	262.85	47.06
31.0	14.43	297.37	389.20	686.56	453.04	274.62	47.58
32.0	14.90	313.36	403.07	716.43	474.59	286.57	48.10
33.0	15.36	329.60	415.46	745.06	495.78	298.02	48.50
34.0	15.83	346.07	426.16	772.23	516.53	308.89	48.79
35.0	16.29	362.77	434.94	797.71	536.75	319.08	48.96
36.0	16.76	379.69	441.60	821.28	556.33	328.51	49.01
37.0	17.22	396.81	446.65	843.45	575.46	337.38	48.97
38.0	17.69	414.11	450.62	864.73	594.36	345.89	48.89
39.0	18.15	431.61	454.05	885.65	613.22	354.26	48.79
40.0	18.62	449.27	457.48	906.74	632.26	362.70	48.70
41.0	19.08	467.08	460.90	927.99	651.45	371.19	48.62
42.0	19.55	485.05	464.33	949.38	670.78	379.75	48.56
43.0	20.02	503.16	467.76	970.92	690.26	388.37	48.51
44.0	20.48	521.39	471.19	992.58	709.87	397.03	48.46
45.0	20.95	539.74	474.61	1014.36	729.59	405.74	48.43
46.0	21.41	558.20	478.04	1036.24	749.42	414.50	48.40

TOP LOAD ton	TOP MOVEMENT IN.	TIP LOAD ton	TIP MOVEMENT IN.
0.4581E+00	0.1570E-03	0.3486E-01	0.1000E-03
0.4581E+01	0.1570E-02	0.3486E+00	0.1000E-02
0.1145E+02	0.3925E-02	0.8714E+00	0.2500E-02
0.2290E+02	0.7851E-02	0.1743E+01	0.5000E-02
0.3436E+02	0.1178E-01	0.2614E+01	0.7500E-02
0.4581E+02	0.1570E-01	0.3486E+01	0.1000E-01
0.1149E+03	0.3929E-01	0.8714E+01	0.2500E-01
0.2209E+03	0.7780E-01	0.1743E+02	0.5000E-01
0.3045E+03	0.1135E+00	0.2614E+02	0.7500E-01
0.3709E+03	0.1476E+00	0.3486E+02	0.1000E+00
0.5652E+03	0.3259E+00	0.8704E+02	0.2500E+00
0.6873E+03	0.5975E+00	0.1705E+03	0.5000E+00
0.7527E+03	0.8604E+00	0.2365E+03	0.7500E+00
0.7910E+03	0.1118E+01	0.2751E+03	0.1000E+01
0.1209E+04	0.5001E+01	0.6979E+03	0.4800E+01

APPENDIX C

Acura Engineering Geotechnical Report (Data Report)

November 2, 2007

Mr. Nick La Fronz
HDR
3200 E. Camelback Rd, #350
Phoenix, AZ 85018

Geotechnical Report
Cross Cut Canal Muli-Use Path Improvments
64th Street/Thomas to Indian School Road
Scottsdale, Arizona

Acura Project No. A07-0129G

Acura ENGINEERING

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Mr. Nick LaFronz, P.E.
HDR
3200 E Camelback Road, #350
Phoenix, AZ 85018

Project No. A07-0129G
November 2, 2007

Geotechnical Report
Cross Cut Canal Multi-Use Path Improvements
64th St/ Thomas Rd to Indian School Rd
Scottsdale, Arizona

Dear Mr. LaFronz:

Submitted herewith are the results of the geotechnical investigation for the subject project. In brief, the report includes a plan of borings, boring logs, laboratory test results, and a description of subsurface conditions.

We appreciate this opportunity to be of service to you. If you have any questions regarding this report, please contact us.

Respectfully submitted,
ACURA ENGINEERING ARIZONA, LLC

Prabhakar (Peter) Rupal, P.E.
President

Registered Professional Engineer (Civil)
CERTIFICATE NO.
30524
PRABHAKAR
RUPAL
Date Signed 11-2-07
ARIZONA, U.S.A.

Enclosure
Copies submitted:
4cc: Client

TABLE OF CONTENTS

PURPOSE AND SCOPE

This report presents the results of our field investigation and laboratory testing for a new canal pedestrian bridge approximately 250 feet north of Thomas Road and 64th Street and a bridge wing wall on the southwest corner of Indian School Road and 64th Street in Scottsdale, Arizona.

Our field exploration program consisted of exploratory borings drilled to obtain information on subsurface conditions. The locations of the borings are shown on the Site Plans included in Appendix A. Samples were tested to determine physical and engineering characteristics. Results of the field exploration and laboratory tests will be analyzed by HDR to develop earthwork and foundation design recommendations for the project.

SITE DESCRIPTION

The Cross Cut Canal is a concrete-lined channel with parallel paved/unpaved walking paths along both east and west embankments. An existing SRP bridge spans the canal approximately 80 feet to the south and has flow control gates beneath. Two high voltage power lines in the canal right-of-way were overhead and various underground utilities are nearby. Commercial business is to the west and 64th Street is to the east. The proposed wing wall near the southwest corner of Indian School Road and 64th Street currently has a wing wall/sidewalk adjacent 64th St. and a walk path on the canal east side. High voltage power lines are overhead.

FIELD EXPLORATION

Three exploratory borings were drilled September 10th, 11th, and 21st, 2007 at the locations shown on the Site Plans included in Appendix A to explore the subsurface conditions. Locations of the exploratory borings were established during an onsite meeting with HDR representative, Mr. Nick LaFronz, P.E.

The drill crew advanced the borings through the on-site soils with a CME Lt-12 rubber track-mounted drill rig using a 7-inch diameter hollow stem auger. Our field geologist logged the borings and obtained samples for laboratory analysis. The exploratory borings were backfilled with grout up to 18 inches from existing grade, and then filled with auger cuttings.

Samples of the subsurface materials were obtained with either a 2.0-inch standard split spoon sampler or a 2.42-inch inside diameter, ring-lined barrel sampler in general accordance with ASTM Method D1586, Split Barrel Sampling. The samplers were driven into the various strata using a 140-pound hammer. In B-1 and B-2, the hammer drop was approximately 18 to 20 inches. In B-3, the hammer drop was 30 inches. The number of blows required to advance each respective

sampler was recorded as the penetration resistance (SPT or N) value. Penetration resistance values provide an indication of the relative density of granular soils or consistency of fine-grained soils. Depths at which the samples were obtained and the penetration resistance values are shown on the attached exploratory boring logs.

SUBSURFACE PROFILE AND ENGINEERING PROPERTIES

Subsurface Profile

The subsurface profile in borings B-1 and B-2 is **FILL** material comprised of clayey sand and silty clayey sand, to depths of 9 to 12 feet, overlying clayey sand, sandy clay, and silty sand. The borings encountered auger refusal or were terminated at depths of 55.5 and 45.5 feet respectively. Boring B-3 had approximately 9 feet of sandy clay and clayey sand **FILL** material overlying native sand clay and clayey sand to a depth of 31.5 feet below existing grade. Subordinate amounts of gravel were noted in the clay, silt, and sand. Standard penetration resistance (N) values ranged from about 15 to 50+ blows per foot. The samples are described as being "damp" to "moist" based on visual and tactile evaluation at the time of investigation. Groundwater was not encountered in the test borings during the investigation.

The boring logs should be referenced for complete soil descriptions and classifications, interpolated thickness of the strata, and penetration resistance (N) values.

Laboratory Test Results

Samples of soil obtained during the field exploration were observed and visually classified in accordance with ASTM D2487, which is based on the Unified Soil Classification System. Samples were selected for testing to determine the engineering and physical properties in general accordance with ASTM or other generally recognized procedures. Results of all laboratory tests are presented in Appendix B.

In summary, in-place dry density of the upper soils is on the order of 104 to 114 pcf at natural water contents of about 7 to 16 percent at the time of investigation. The liquid limits of the upper soils ranged from 21 to 52 percent and the plasticity indices ranged from 3 to 23 percent. Undisturbed samples of the upper soils displayed additional compression due to inundation under typical foundation loading conditions. Sample analyzed for soluble sulfates ranged from 13 to 293 ppm and chlorides ranged from 38 to 672 ppm. Results of direct shear testing on saturated samples will be submitted as soon as they are available.

LIMITATIONS

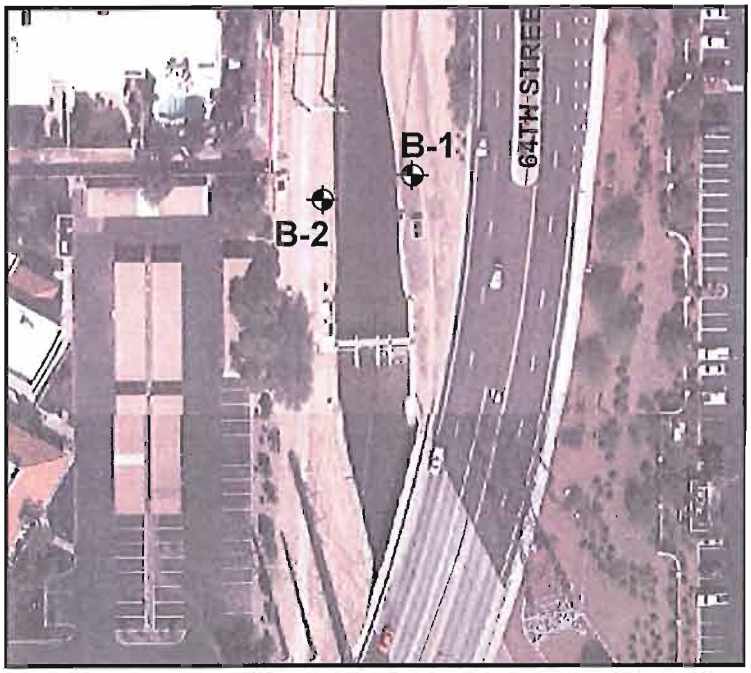
This investigation has been conducted in accordance with generally accepted geotechnical engineering practices in this area for use by the client for design purposes.

Acura's scope of work does not include the investigation, detection, or design related to the presence of any biological pollutants. The term 'biological pollutants' includes, but is not limited to mold, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms. The scope of this investigation and report does not include regional considerations such as seismic activity and ground fissures resulting from subsidence due to groundwater withdrawal, nor any considerations of hazardous releases or toxic contamination of any type.

The nature and extent of subsurface variations across the site may not become evident until construction. During construction, if fill, soil, rock or water conditions appear to be different from those described herein, this office should be advised at once.

This report has been prepared for the exclusive use by our client for design purposes. We are not responsible for technical interpretations by others of our exploratory information that has not been described or documented in this report. This report should not be used by the contractor as the sole tool for bidding quantities or establishing construction/excavation methods. The contractor should make his own independent assessment in these regards.

Appendix A
Field Results



Acura ENGINEERING

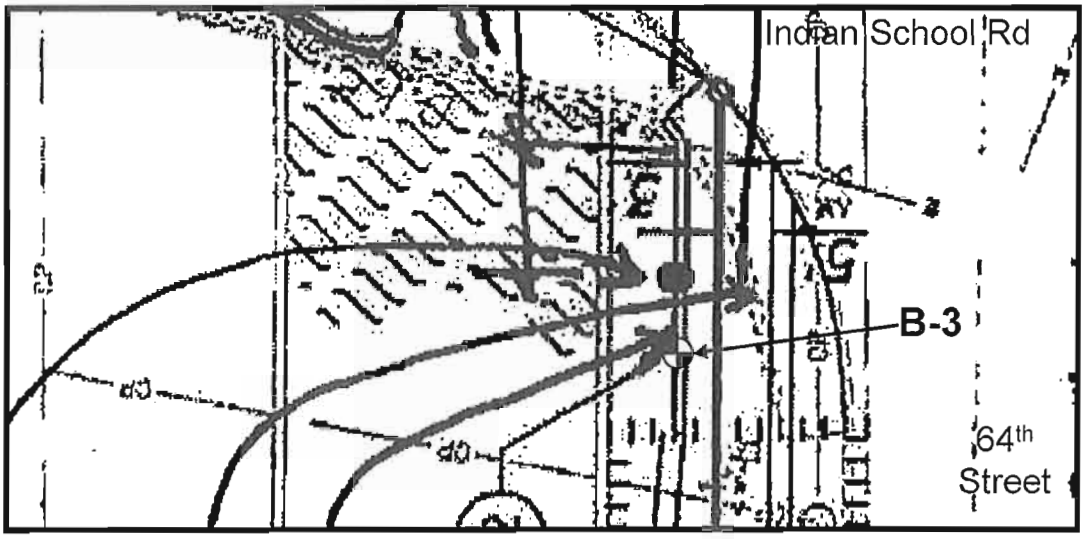
5235 South 39th Street
Phoenix, Arizona

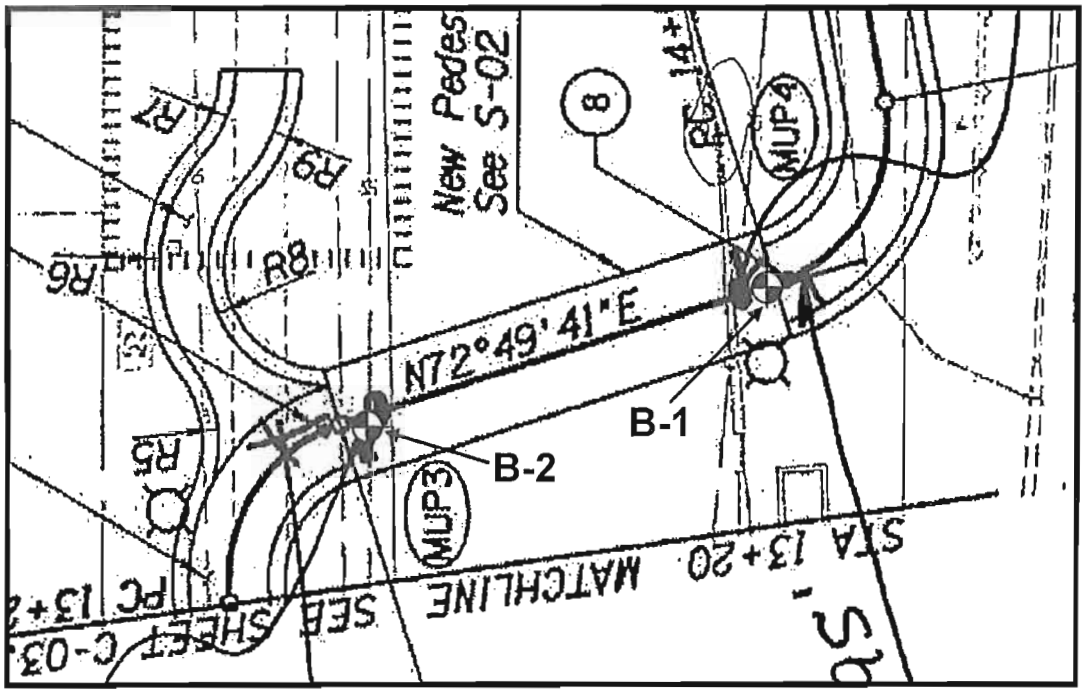
Project No.: A07-0129G

Name & Location:
Cross Cut Canal Multi-Use Path Improvements
64th St. st Thomas & Indian School Roads
Scottsdale, AZ

⊕ Approximate Boring Location

N





Acura ENGINEERING

5235 South 39th Street
Phoenix, Arizona

Project No.: A07-0129G

Name & Location:
Cross Cut Canal Multi-Use Path Improvements
64th St. st Thomas & Indian School Roads
Scottsdale, AZ

Approximate Boring Location

N

LEGEND AND NOTES

SOIL TYPE


GW, Well-Graded Gravel


SW, Well-Graded Sand


ML, Silt


GP, Poorly-Graded Gravel


SP, Poorly-Graded Sand


CL, Lean Clay


GM, Silty Gravel


SM, Silty Sand


CH, Fat Clay


GC, Clayey Gravel


SC, Clayey Sand


Fill, Unclassified

Note: Dual or modified symbols may be used for borderline soil classifications or to provide better graphical depiction of the soil.

SAMPLER TYPES


Split-Spoon


Modified Dames and Moore


Auger

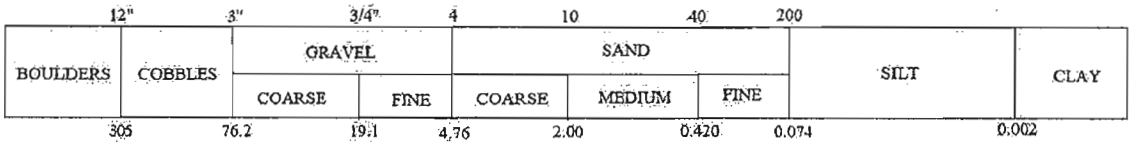

Shelby Tube

GROUNDWATER


Groundwater Level

SOIL GRAIN SIZE

U.S.STANDARD SIEVE



SOIL GRAIN SIZE IN MILLIMETERS

STRENGTH OF COHESIVE SOILS

CONSISTENCY	NUMBER OF BLOWS PER FT., N	UNDRAINED SHEAR STRENGTH Kips Per Sq. Ft.
Very Soft	0 - 2	Less Than 0.25
Soft	3 - 4	0.25 to 0.50
Firm	5 - 8	0.50 to 1.00
Stiff	9 - 15	1.00 to 2.00
Very Stiff	16 - 30	2.00 to 4.00
Hard	Over 30	Greater Than 4.00

DENSITY OF NON-COHESIVE SOILS

NUMBER OF BLOWS PER FT., N	RELATIVE DENSITY
0 - 4	Very Loose
4 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
Over 50	Very Dense

Criteria for Describing Moisture Condition

Description	Criteria
Damp	Dusty, dry to the touch
Moist	Damp but no visible of water
Wet	Visible free water, usually soil is below water table

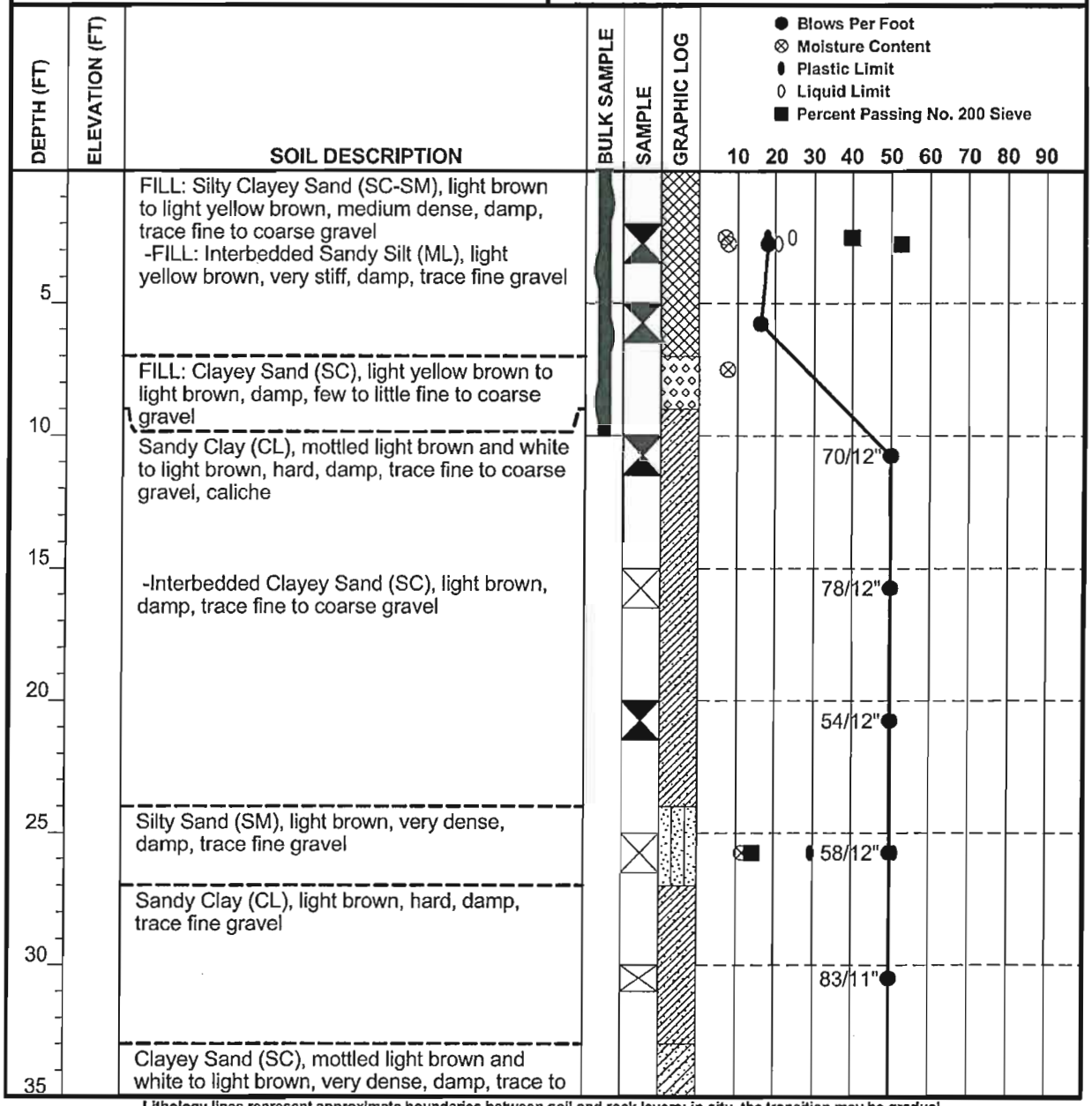
ASTM D 2488 Note 16 Criteria for Describing Percentages of Gravel, Sand and Fines

Description	Criteria
Trace	Particles are present but estimated to be less than 5 %
Few	5 to 10 %
Little	15 to 25 %
Some	30 to 45 %
Mostly	50 to 100 %

Acura ENGINEERING

Boring No. B-1
Sheet 1 of 2

Logged By: J Householder	Project No.: A07-0129G
Driller: Yellow Jacket Drilling	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 55.5	
Other: Pedestrian Bridge - east side canal	Date Started: 9/10/2007 Date Completed: 9/10/2007
	Depth to Groundwater (ft): No Water

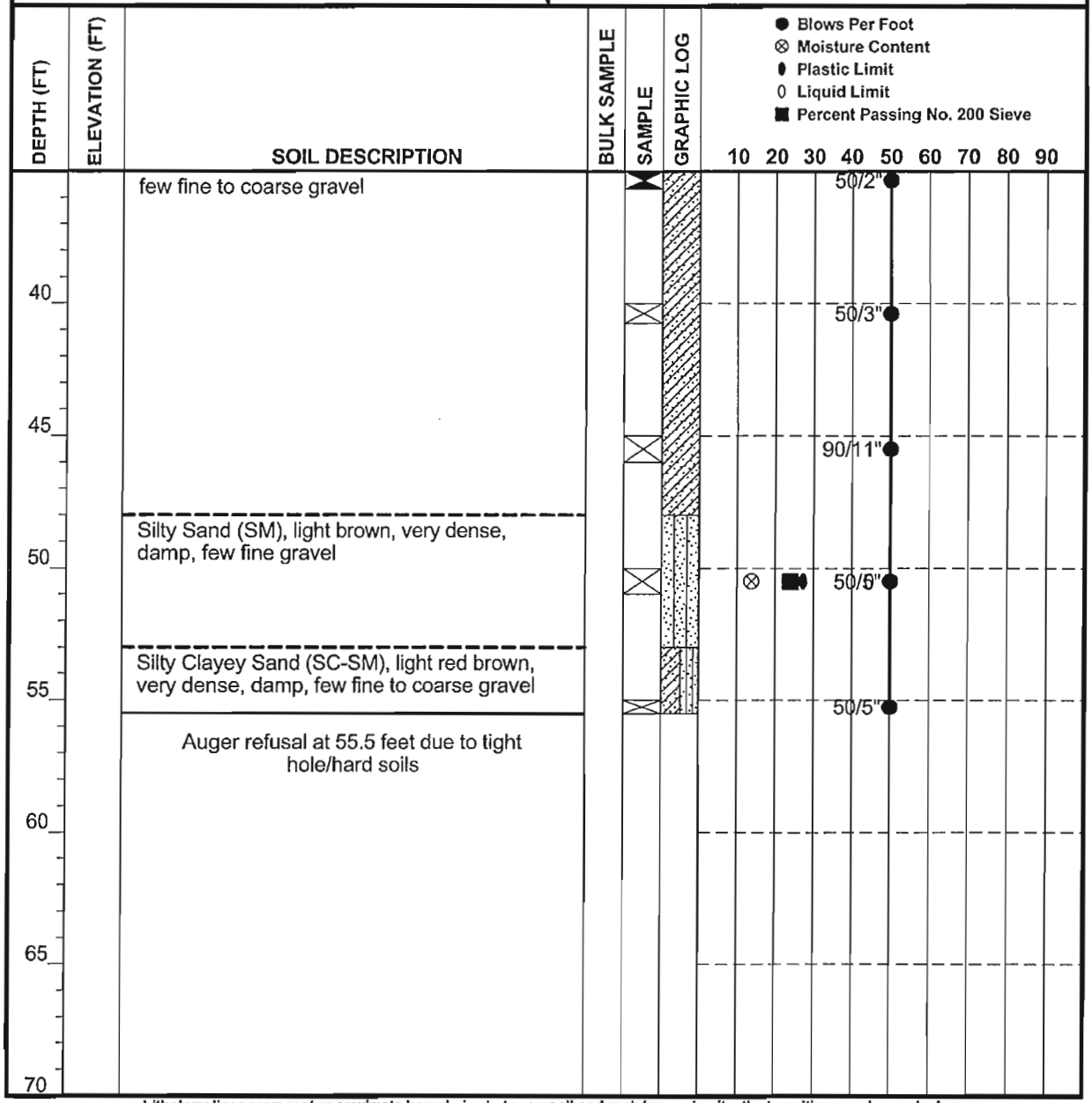


Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

Acura ENGINEERING

Boring No. B-1
Sheet 2 of 2

Logged By: J Householder	Project No.: A07-0129G
Driller: Yellow Jacket Drilling	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 55.5	
Other: Pedestrian Bridge - east side canal	Date Started: 9/10/2007 Date Completed: 9/10/2007
	Depth to Groundwater (ft): No Water

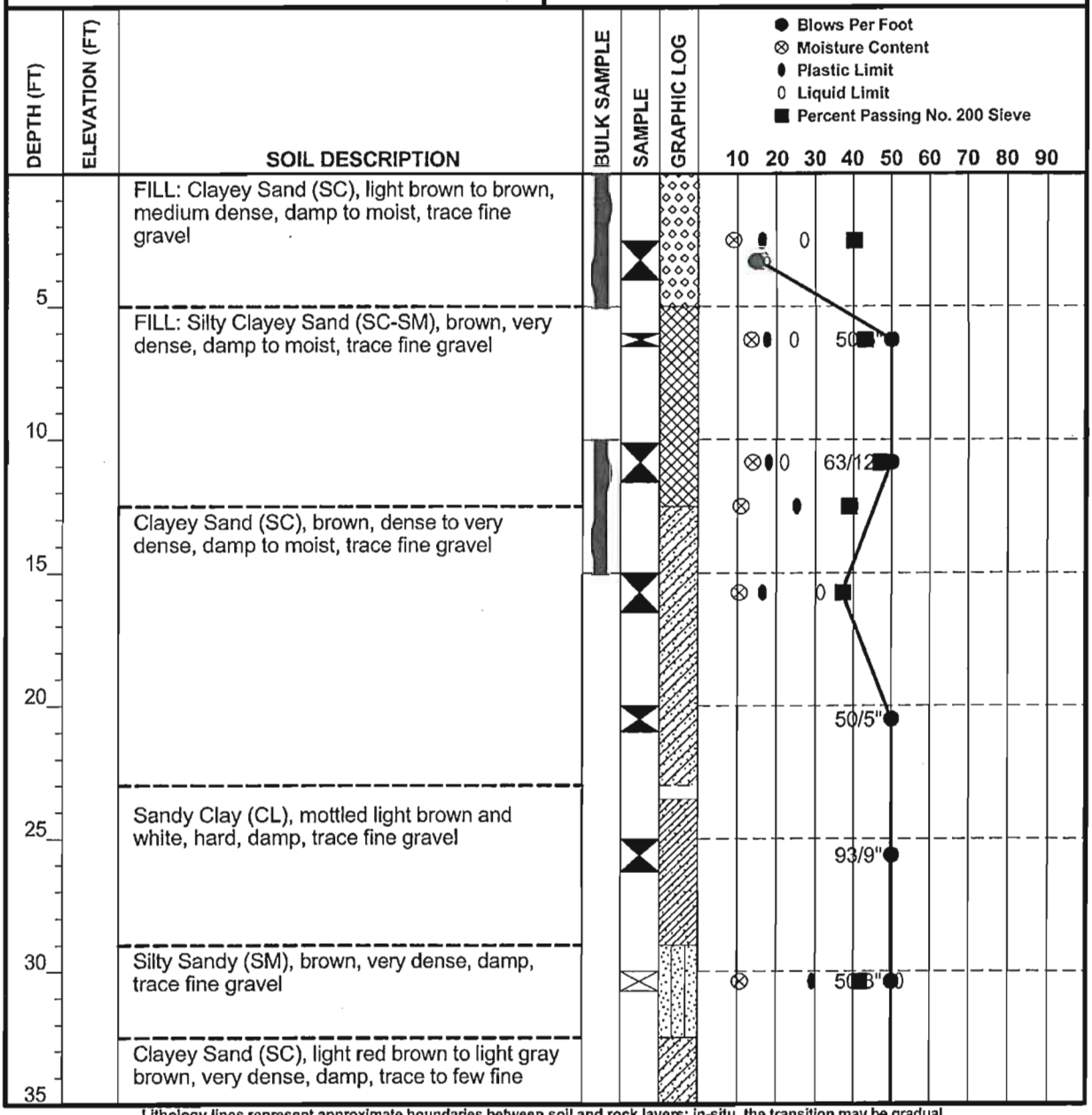


Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

Acura ENGINEERING

Boring No. B-2
Sheet 1 of 2

Logged By: J Householder	Project No.: A07-0129G
Driller: Yellow Jacket Drilling	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 45.5	
Other: Pedestrian Bridge - west side canal	Date Started: 9/11/2007 Date Completed: 9/11/2007
	Depth to Groundwater (ft): No Water

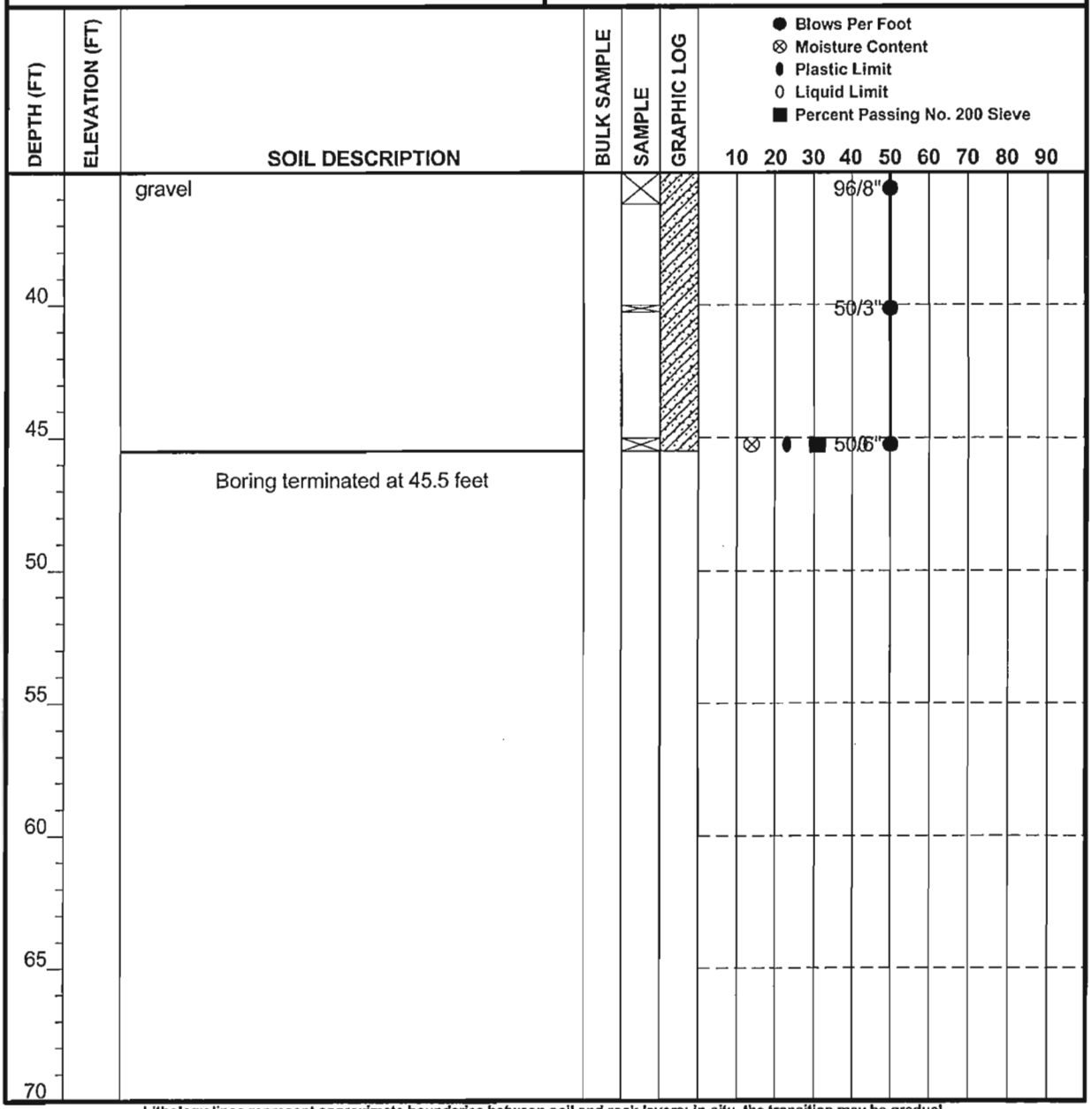


Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

Acura ENGINEERING

Boring No. B-2
Sheet 2 of 2

Logged By: J Householder	Project No.: A07-0129G
Driller: Yellow Jacket Drilling	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 45.5	
Other: Pedestrian Bridge - west side canal	Date Started: 9/11/2007 Date Completed: 9/11/2007
	Depth to Groundwater (ft): No Water



Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

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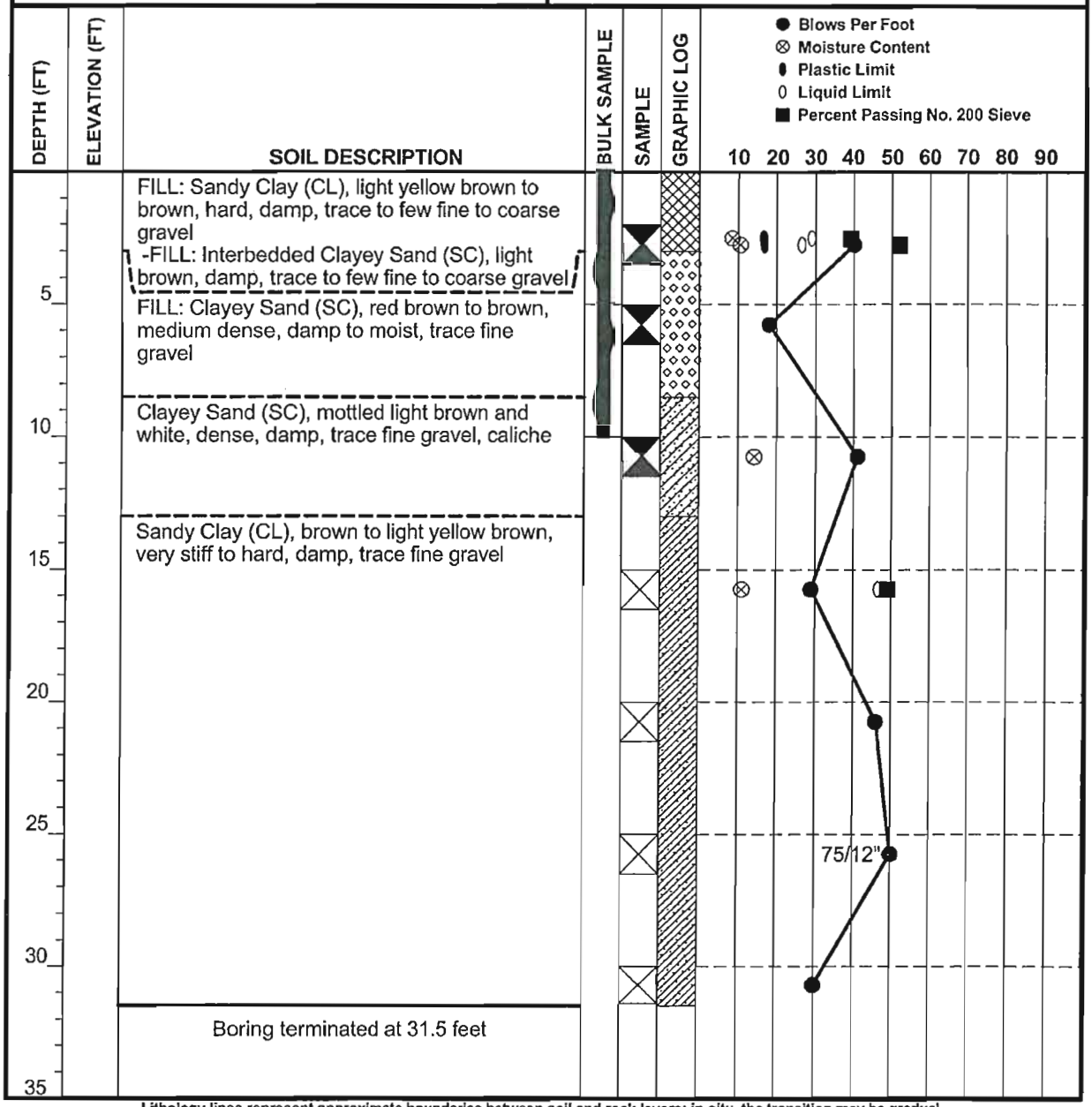
Boring No. B-3
Sheet 1 of 1

Logged By: J Householder	Project No.: A07-0129G
Driller: Yellow Jacket Drilling	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 31.5	
Other: Retaining Wall	Date Started: 9/21/2007 Date Completed: 9/21/2007
	Depth to Groundwater (ft): No Water



Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

Acura Engineering - 5235 S. 39th Street - Phoenix, Arizona 85040 - 602.458.7484 - Fax 602.458.9246

Appendix B
Laboratory Test Results

Sample	Natural Moisture (%)	In-Place Dry Density (pcf)	Atterberg Limits		Grain Size Distribution (% Finer)					pH	Resistivity (ohm-cm)	Soluble Sulfates (ppm)	Chlorides (ppm)	USCS
			LL	PI	#200	#40	#10	#4	3"					
B-1 @ 0-5'	6.8	-	24	6	40	61	77	88	100	-	-	16	38	SC-SM
B-1 @ 2-3.5'	7.5	104.4	21	3	52	80	91	96	100	-	-	-	-	ML
B-1 @ 5-10'	7.4	-	-	-	-	-	-	-	-	-	-	13	49	-
B-1 @ 25-26.5'	11.5	-	51	22	14	60	83	94	100	-	-	17	53	SM
B-1 @ 50-51'	13.7	-	45	18	24	41	63	81	100	-	-	-	-	SM
B-2 @ 0-5'	9.0	-	27	11	40	62	82	90	100	-	-	293	672	SC
B-2 @ 2.5-4'	16.3	110.3	-	-	-	-	-	-	-	-	-	-	-	-
B-2 @ 6-6.5'	13.5	113.8	24	7	43	69	89	96	100	-	-	-	-	SC-SM
B-2 @ 10-15'	10.9	-	40	15	39	56	71	87	100	-	-	158	338	SC
B-2 @ 10.1-11.6	13.8	-	22	4	47	71	84	93	100	-	-	-	-	SC-SM
B-2 @ 15-16.5'	10.5	-	31	15	37	57	82	92	100	-	-	-	-	SC
B-2 @ 30-30.75'	10.7	-	52	23	42	66	82	91	100	-	-	-	-	SM
B-2 @ 45-45.5'	13.8	-	43	20	31	54	78	91	100	-	-	-	-	SC
B-3 @ 0-5'	8.4	-	29	13	39	59	73	85	100	-	-	67	313	SC
B-3 @ 2-3.5'	10.5	111.8	26	9	52	75	89	98	100	-	-	-	-	CL
B-3 @ 10-11.5'	14.1	105.7	-	-	-	-	-	-	-	-	-	-	-	-

NV - no value
NP - non-plastic
NOTE: Sieve analysis results do not include particle sizes greater than 3" in diameter. Refer to boring logs for notes on presence of cobbles and boulder-sized particles.

Acura Engineering
5235 South 39th Street
Phoenix, Arizona 85040
Telephone: 602-458-7484
Fax: 602-458-9246

LABORATORY TEST SUMMARY

Project Name: Cross Cut Canal Multi-Use Path Improvements

Location: 64th St/ Thomas to Indian School Rd
Scottsdale, AZ

Project No.: A07-0129G

Sample	Natural Moisture (%)	In-Place Dry Density (pcf)	Atterberg Limits		Grain Size Distribution (% Finer)					pH	Resistivity (ohm-cm)	Soluble Sulfates (ppm)	Chlorides (ppm)	USCS
			LL	PI	#200	#40	#10	#4	3"					
B-3 @ 15-16.5'	11.1	-	46	16	49	74	88	97	100	-	-	-	-	SM

NV - no value
NP - non-plastic
NOTE: Sieve analysis results do not include particle sizes greater than 3" in diameter. Refer to boring logs for notes on presence of cobbles and boulder-sized particles.

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Phoenix, Arizona 85040
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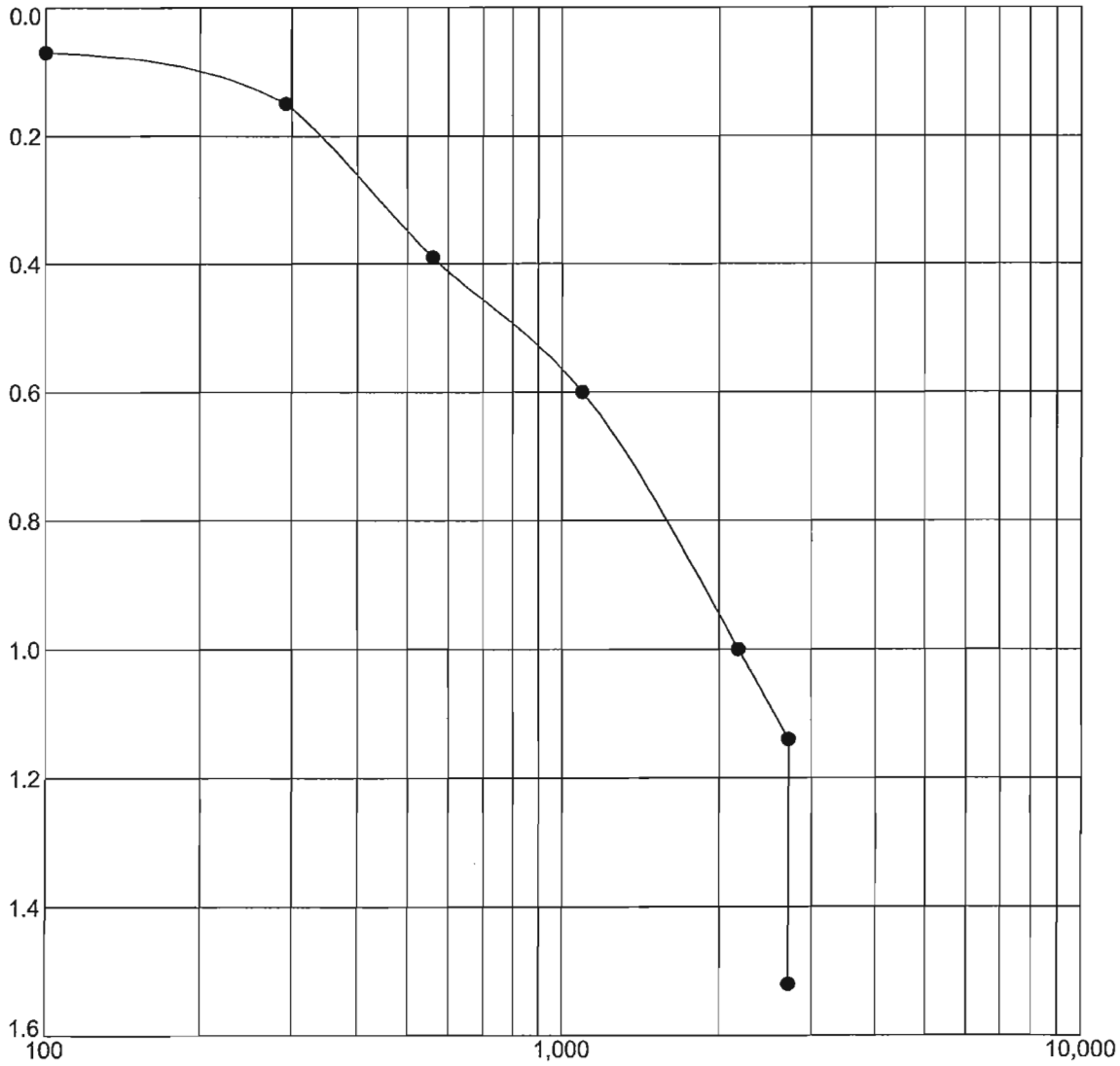
LABORATORY TEST SUMMARY

Project Name: Cross Cut Canal Multi-Use Path Improvements

Location: 64th St/ Thomas to Indian School Rd
Scottsdale, AZ

Project No.: A07-0129G



Specimen Identification		Classification	γ_d	MC%
● B-3	2-3.5	SANDY LEAN CLAY(CL)	112	11

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Phoenix, Arizona 85040
Telephone: 602-458-7484
Fax: 602-458-9246

CONSOLIDATION TEST

Project Name: Cross Cut Canal Multi-Use Path Improvements
Location: 64th St/ Thomas to Indian School Rd
Scottsdale, AZ
Project No.: A07-0129G

US CONSOL STRAIN A07-0129G.GPJ US LAB.GDT 10/8/07

Boring	Sample Depth (feet)	Maximum Dry Density	Optimum Moisture Content (%)	Remolded Dry Density (pcf)	Initial Moisture Content (%)	Degree of Compaction (%)	Final Moisture Content (%)	Confining Load (psf)	Total Swell (%)
B-1	0-5	120.2	10.9	114.2	8.9	95	17.2	100	0.3
B-2	0-5	121.7	9.7	115.6	7.7	95	16.4	100	1.9
B-3	0-5	120.2	10.5	114.2	8.5	95	16.8	100	2.3

AZ SWELL TEST SUMMARY A07-0129G.GPJ ACURA.GDT 10/8/07

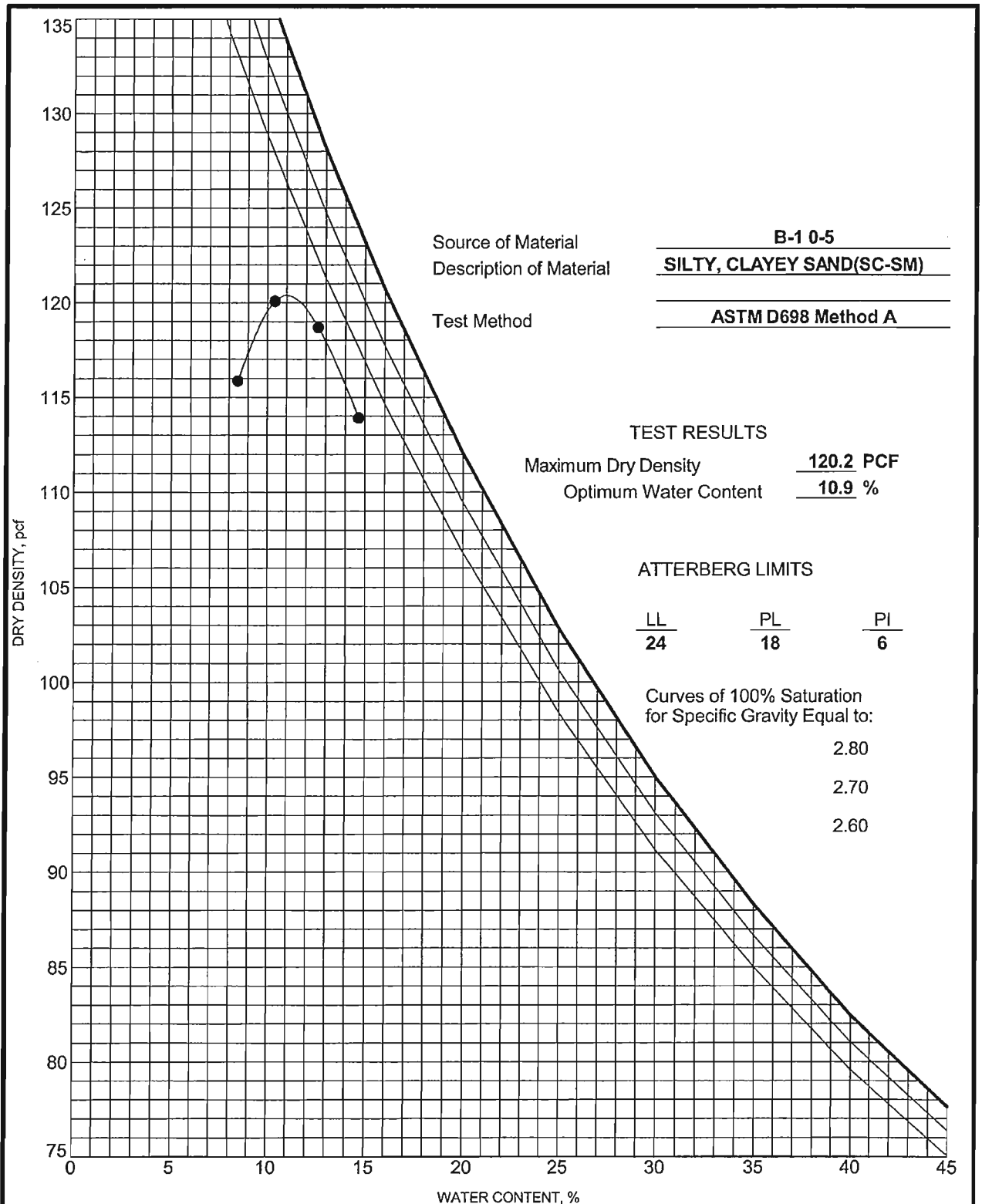
Acura Engineering
5235 South 39th Street
Phoenix, Arizona 85040
Telephone: 602-458-7484
Fax: 602-458-9246

SWELL TEST DATA

Project Name: Cross Cut Canal Multi-Use Path Improvements

Location: 64th St/ Thomas to Indian School Rd
Scottsdale, AZ

Project No.: A07-0129G



Source of Material: B-1 0-5

Description of Material: SILTY, CLAYEY SAND(SC-SM)

Test Method: ASTM D698 Method A

TEST RESULTS

Maximum Dry Density: 120.2 PCF

Optimum Water Content: 10.9 %

ATTERBERG LIMITS

LL	PL	PI
24	18	6

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

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Phoenix, Arizona 85040
Telephone: 602-458-7484
Fax: 602-458-9246

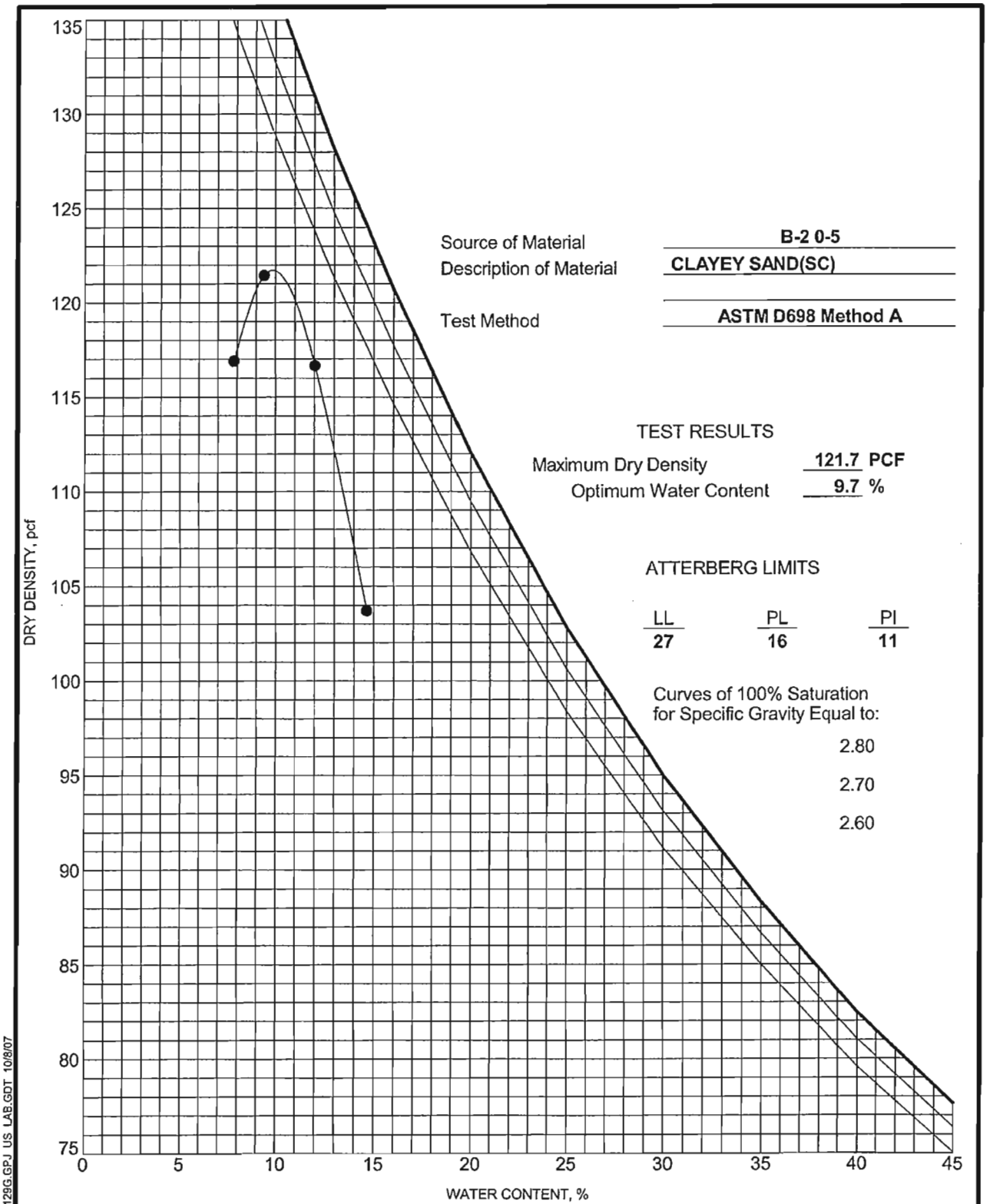
MOISTURE-DENSITY RELATIONSHIP

Project Name: Cross Cut Canal Multi-Use Path Improvements

Location: 64th St/ Thomas to Indian School Rd
Scottsdale, AZ

Project No.: A07-0129G

US COMPACTION A07-0129G.GPJ US LAB.GDT 10/8/07



Source of Material: B-2 0-5

Description of Material: CLAYEY SAND(SC)

Test Method: ASTM D698 Method A

TEST RESULTS

Maximum Dry Density: 121.7 PCF

Optimum Water Content: 9.7 %

ATTERBERG LIMITS

LL	PL	PI
27	16	11

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

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Phoenix, Arizona 85040
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Fax: 602-458-9246

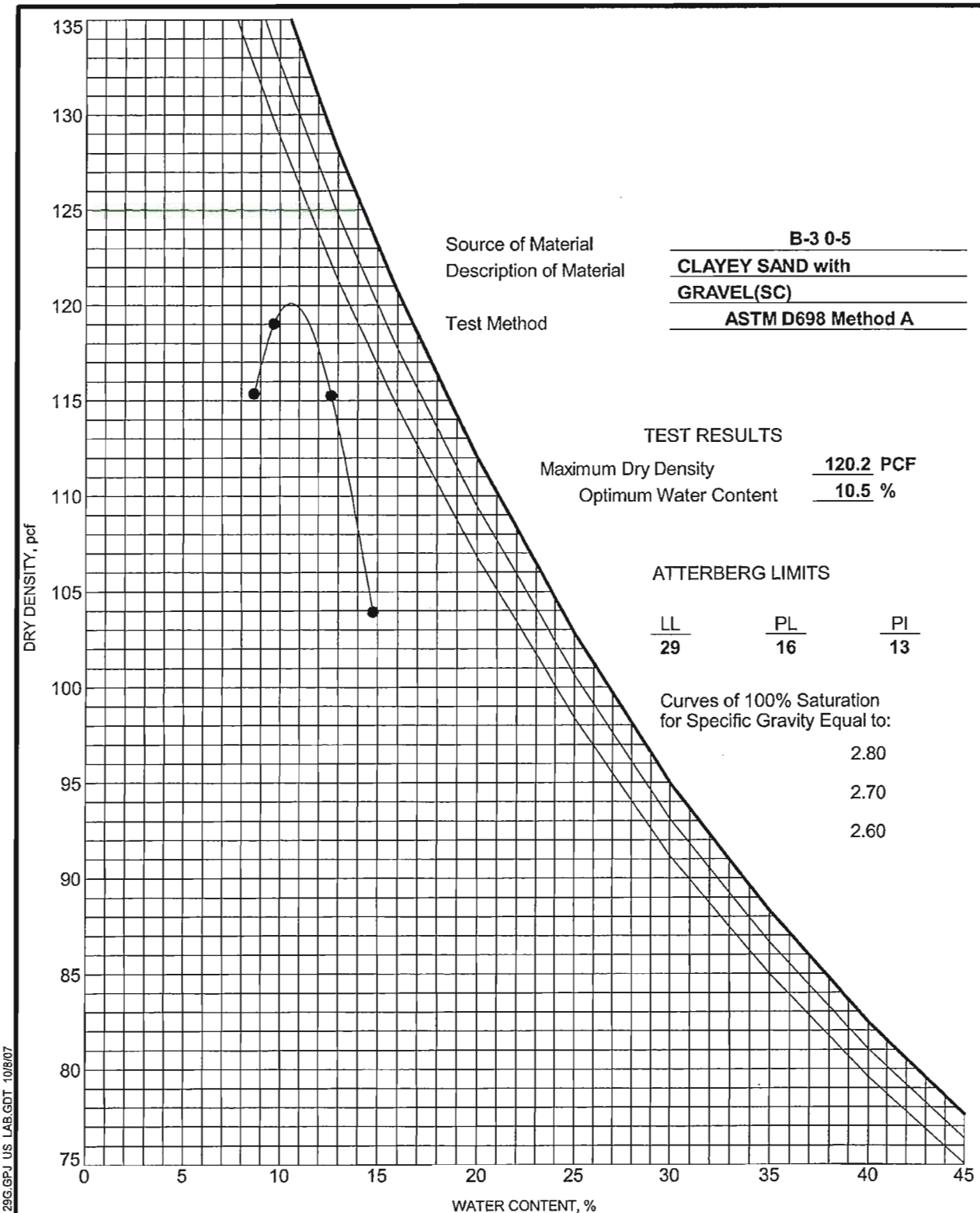
MOISTURE-DENSITY RELATIONSHIP

Project Name: Cross Cut Canal Multi-Use Path Improvements

Location: 64th St/ Thomas to Indian School Rd
Scottsdale, AZ

Project No.: A07-0129G

US COMPACTION A07-0129G.GPJ US LAB.GDT 10/8/07



Source of Material: B-3 0-5

Description of Material: CLAYEY SAND with GRAVEL(SC)

Test Method: ASTM D698 Method A

TEST RESULTS

Maximum Dry Density: 120.2 PCF

Optimum Water Content: 10.5 %

ATTERBERG LIMITS

LL	PL	PI
29	16	13

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

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Phoenix, Arizona 85040
Telephone: 602-458-7484
Fax: 602-458-9246

MOISTURE-DENSITY RELATIONSHIP

Project Name: Cross Cut Canal Multi-Use Path Improvements

Location: 64th St/ Thomas to Indian School Rd
Scottsdale, AZ

Project No.: A07-0129G

US COMPACTION A07-0129G.GPJ US LAB.GDT 10/8/07

MOTZZ LABORATORY, INC.
2109 S 48th St Suite 101
Tempe AZ 85282

Soil Analysis Report

Acura Engineering
Peter Rupal, P.E.
5235 S. 39th St
Phoenix, AZ 85040-9008

Project: A07-0129
Sampler:
Date Received: 10/4/2007
Date Reported: 10/7/2007
PO Number:

Lab Number: 9010-01 **B1 0-5**

Sulfate-S & Chloride	Method	Result	Units	Levels
Sulfate-S, SO4-S	ARIZ 733	16	ppm	
Chloride, Cl	ARIZ 736	38	ppm	

Lab Number: 9010-02 **B1 5-10**

Sulfate-S & Chloride	Method	Result	Units	Levels
Sulfate-S, SO4-S	ARIZ 733	13	ppm	
Chloride, Cl	ARIZ 736	49	ppm	

Lab Number: 9010-03 **B1 25-30**

Sulfate-S & Chloride	Method	Result	Units	Levels
Sulfate-S, SO4-S	ARIZ 733	17	ppm	
Chloride, Cl	ARIZ 736	53	ppm	

Lab Number: 9010-04 **B2 0-5**

Sulfate-S & Chloride	Method	Result	Units	Levels
Sulfate-S, SO4-S	ARIZ 733	293	ppm	
Chloride, Cl	ARIZ 736	672	ppm	

Lab Number: 9010-05 **B2 10-15**

Sulfate-S & Chloride	Method	Result	Units	Levels
Sulfate-S, SO4-S	ARIZ 733	158	ppm	
Chloride, Cl	ARIZ 736	338	ppm	

Lab Number: 9010-06 **B3 0-5**

Sulfate-S & Chloride	Method	Result	Units	Levels
Sulfate-S, SO4-S	ARIZ 733	67	ppm	
Chloride, Cl	ARIZ 736	313	ppm	

Acura ENGINEERING

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5235 S. 39th Street
Phoenix, AZ 85040
p: 602.458.7484
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COLORADO
13276 E. Fremont Place
Centennial, CO 80112
p: 303.799.8378
f: 303.799.8392

Mr. Nick LaFronz, P.E.
HDR
3200 E Camelback Road, #350
Phoenix, AZ 85018

Project No. A07-0129G
November 12, 2007

Addendum No. 1 – Direct Shear Test Results
Cross Cut Canal Multi-Use Path Improvements
64th St/ Thomas Rd to Indian School Rd
Scottsdale, Arizona

Dear Mr. LaFronz:

Attached are the results of direct shear testing on representative samples. This addendum should be attached to the original report and made a part thereof.

Respectfully submitted,
ACURA ENGINEERING ARIZONA, LLC

Prabhakar (Peter) Rupal, P.E.
President

Enclosure
Copies submitted:
4cc: Client

LABORATORY REPORT

SPEEDIE AND ASSOCIATES
GEOTECHNICAL / ENVIRONMENTAL / MATERIALS ENGINEERS
3331 EAST WOOD STREET, PHOENIX, ARIZONA 85040

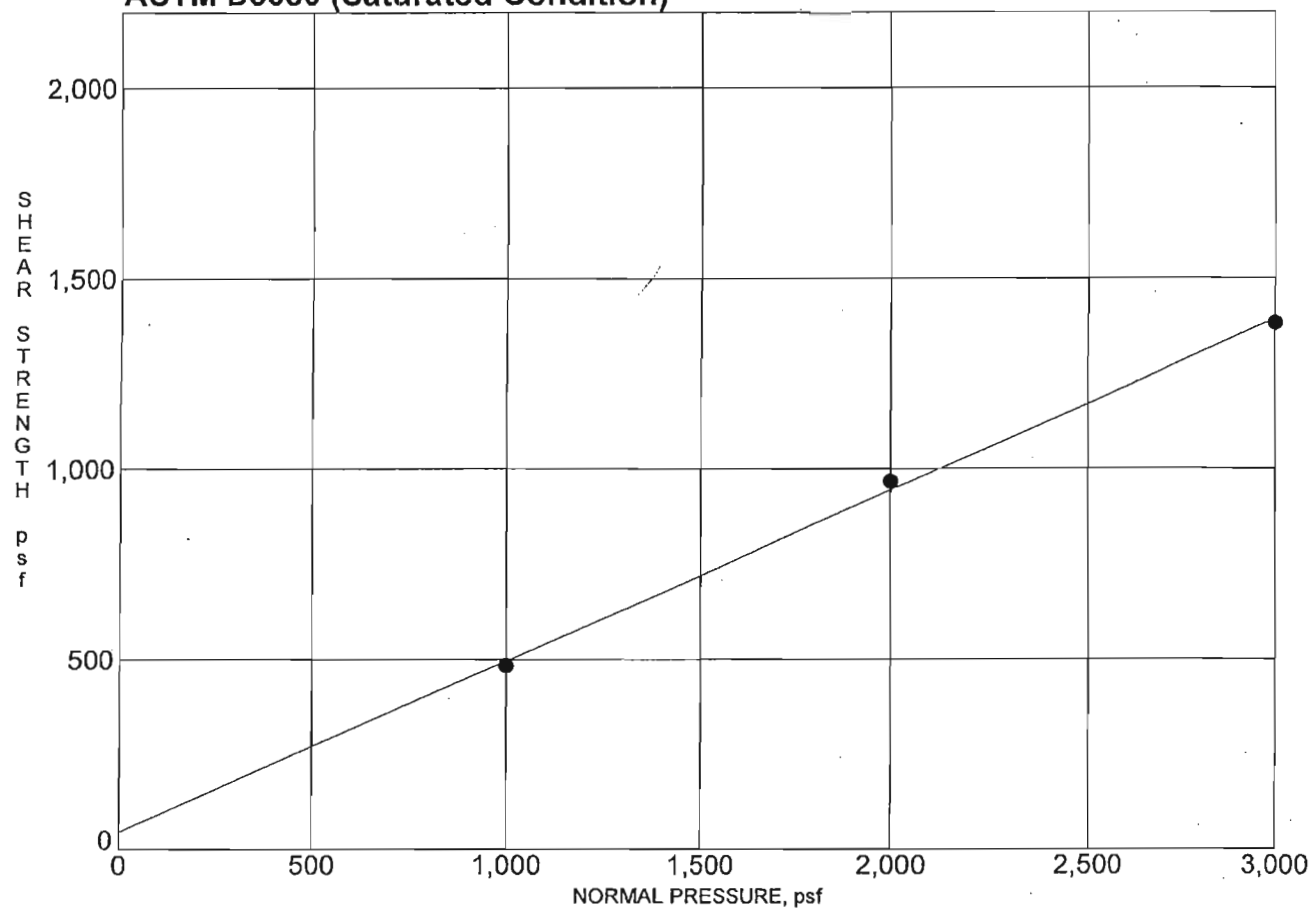
Physical Properties of Soils and Aggregates

Client: Acura Engineering
Peter Rupal
5235 South 39th Street
Phoenix, Arizona 85040

Project No. 071837LA
Lab No. 271397
Field No. B-1
Report Date: 10/31/2007

Project: Direct Shear Samples (A07-0129G)
Location: Not Available
Material: Native Soil — Sampled By: Client — Date: 10/1/2007
Source: Ring Sample — Submitted By: Client — Date: 10/1/2007
Supplier: N/A — Authorized By: Client — Date: 10/1/2007
Sample Location: 5' to 6'

ASTM D3080 (Saturated Condition)



Specimen Identification		Cohesion, psf	Friction Angle	DD	MC%
● 271397	0.0	46.0	24.0	97.1	11.2

LABORATORY REPORT

SPEEDIE AND ASSOCIATES
GEOTECHNICAL / ENVIRONMENTAL / MATERIALS ENGINEERS
3331 EAST WOOD STREET, PHOENIX, ARIZONA 85040

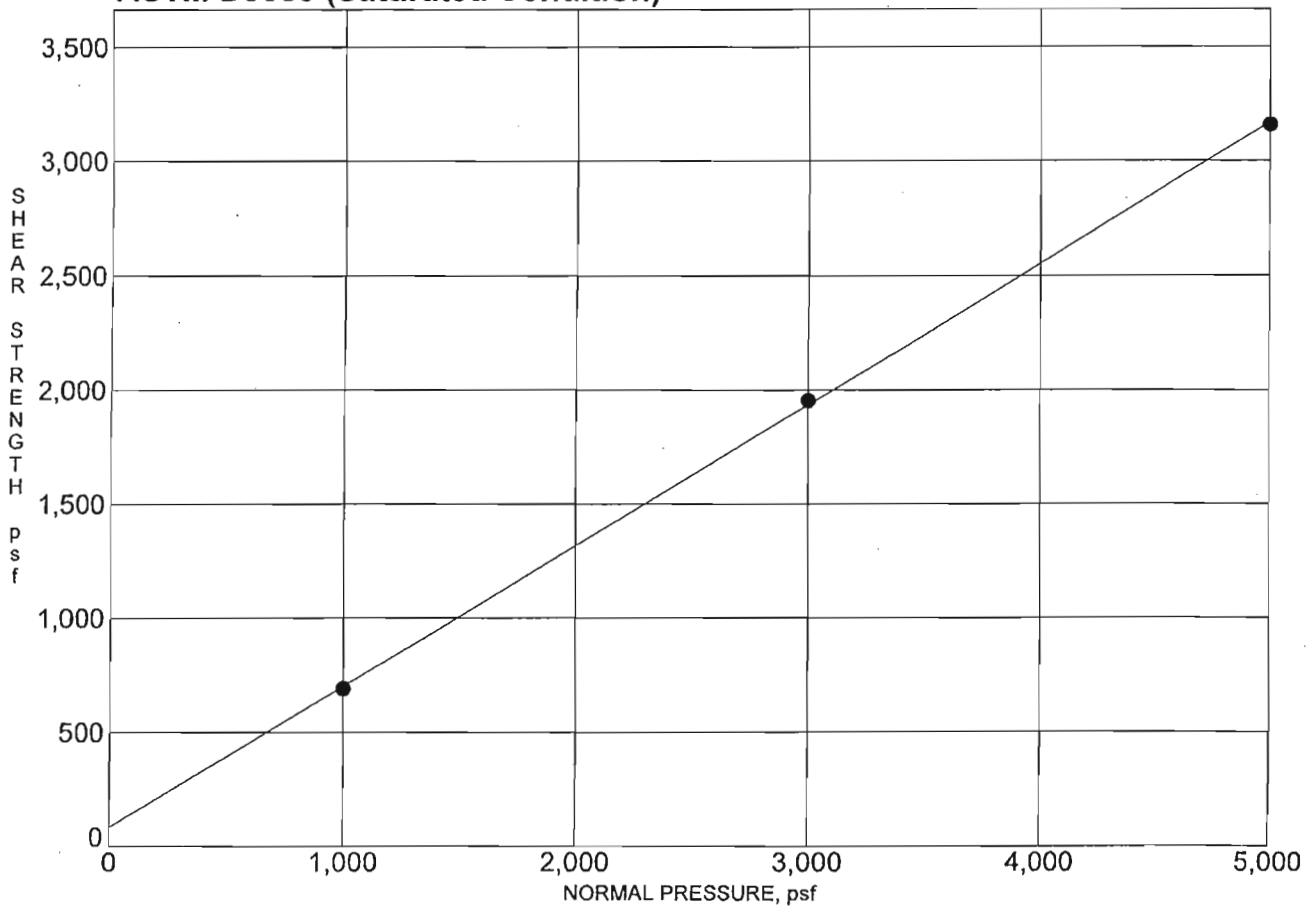
Physical Properties of Soils and Aggregates

Client: Acura Engineering
Peter Rupal
5235 South 39th Street
Phoenix, Arizona 85040

Project No. 071837LA
Lab No. 271398
Field No. B-1
Report Date: 10/31/2007

Project: Direct Shear Samples (A07-0129G)
Location: Not Available
Material: Native Soil — Sampled By: Client — Date: 10/1/2007
Source: Ring Sample — Submitted By: Client — Date: 10/1/2007
Supplier: N/A — Authorized By: Client — Date: 10/1/2007
Sample Location: 20' to 21'

ASTM D3080 (Saturated Condition)



Specimen Identification		Cohesion, psf	Friction Angle	DD	MC%
● 271398	0.0	84.0	32.0	81.2	17.8

LABORATORY REPORT

SPEEDIE AND ASSOCIATES
GEOTECHNICAL / ENVIRONMENTAL / MATERIALS ENGINEERS
3331 EAST WOOD STREET, PHOENIX, ARIZONA 85040

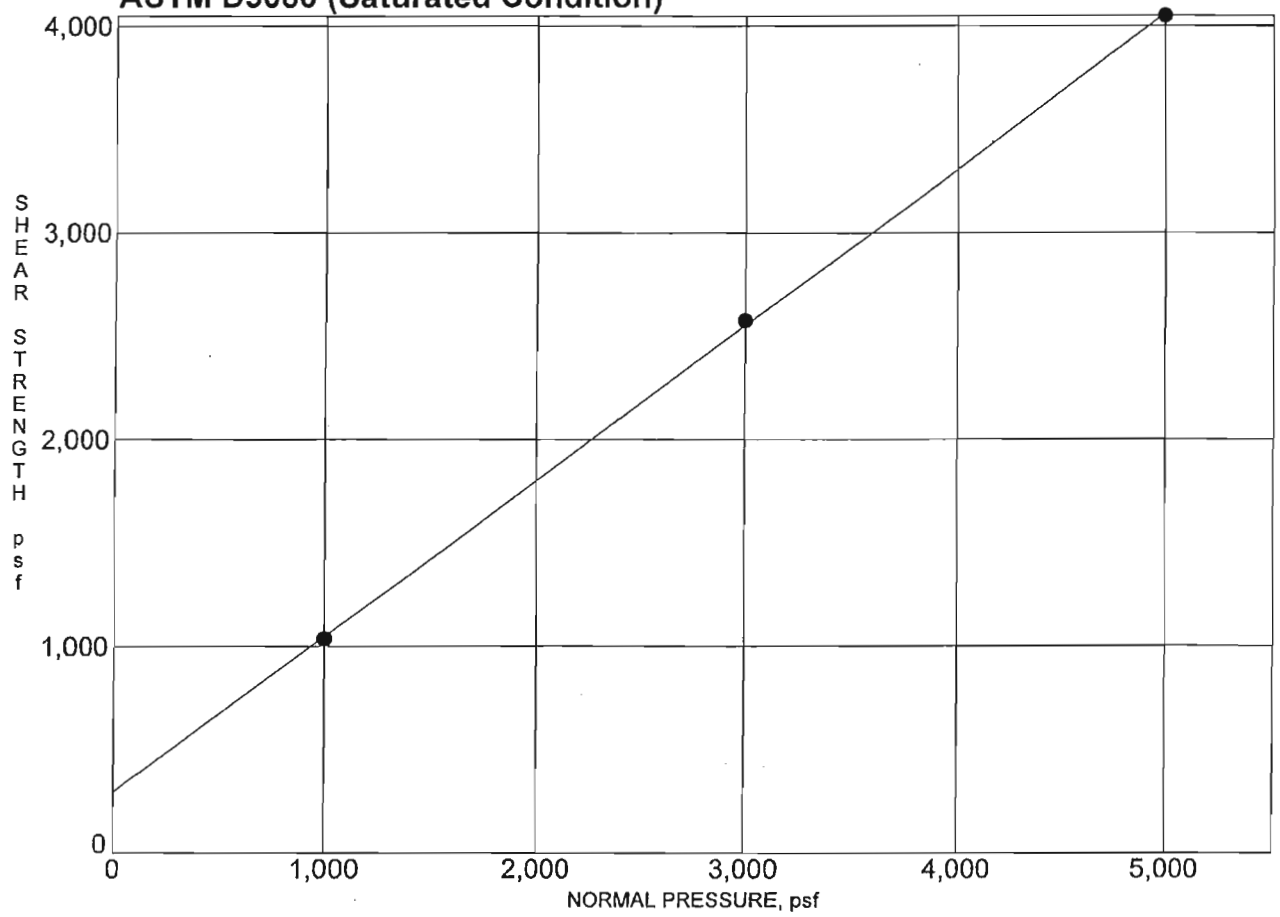
Physical Properties of Soils and Aggregates

Client: Acura Engineering
Peter Rupal
5235 South 39th Street
Phoenix, Arizona 85040

Project No. 071837LA
Lab No. 271399
Field No. B-1
Report Date: 10/31/2007

Project: Direct Shear Samples (A07-0129G)
Location: Not Available
Material: Native Soil — Sampled By: Client — Date: 10/1/2007
Source: Ring Sample — Submitted By: Client — Date: 10/1/2007
Supplier: N/A — Authorized By: Client — Date: 10/1/2007
Sample Location: 35' to 36'

ASTM D3080 (Saturated Condition)



Specimen Identification		Cohesion, psf	Friction Angle	DD	MC%
● 271399	0.0	296.0	37.0	95.6	10.2

LABORATORY REPORT

SPEEDIE AND ASSOCIATES
GEOTECHNICAL / ENVIRONMENTAL / MATERIALS ENGINEERS
3331 EAST WOOD STREET, PHOENIX, ARIZONA 85040

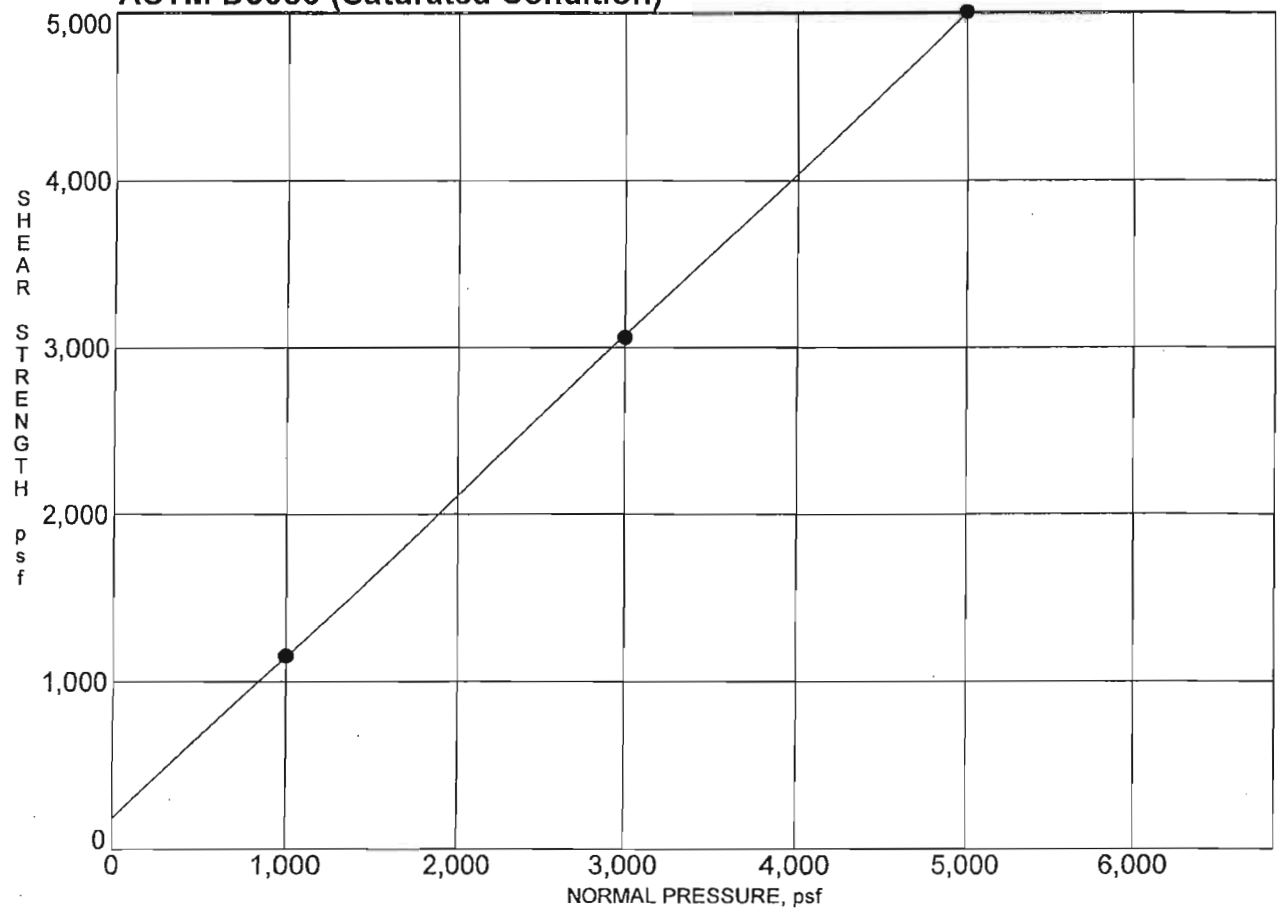
Physical Properties of Soils and Aggregates

Client: Acura Engineering
Peter Rupal
5235 South 39th Street
Phoenix, Arizona 85040

Project No. 071837LA
Lab No. 271400
Field No. B-2
Report Date: 10/31/2007

Project: Direct Shear Samples (A07-0129G)
Location: Not Available
Material: Native Soil — Sampled By: Client — Date: 10/1/2007
Source: Ring Sample — Submitted By: Client — Date: 10/1/2007
Supplier: N/A — Authorized By: Client — Date: 10/1/2007
Sample Location: 25' to 26'

ASTM D3080 (Saturated Condition)



Specimen Identification		Cohesion, psf	Friction Angle	DD	MC%
● 271400	0.0	185.0	44.0	100.9	11.8

LABORATORY REPORT

SPEEDIE AND ASSOCIATES
GEOTECHNICAL / ENVIRONMENTAL / MATERIALS ENGINEERS
3331 EAST WOOD STREET, PHOENIX, ARIZONA 85040

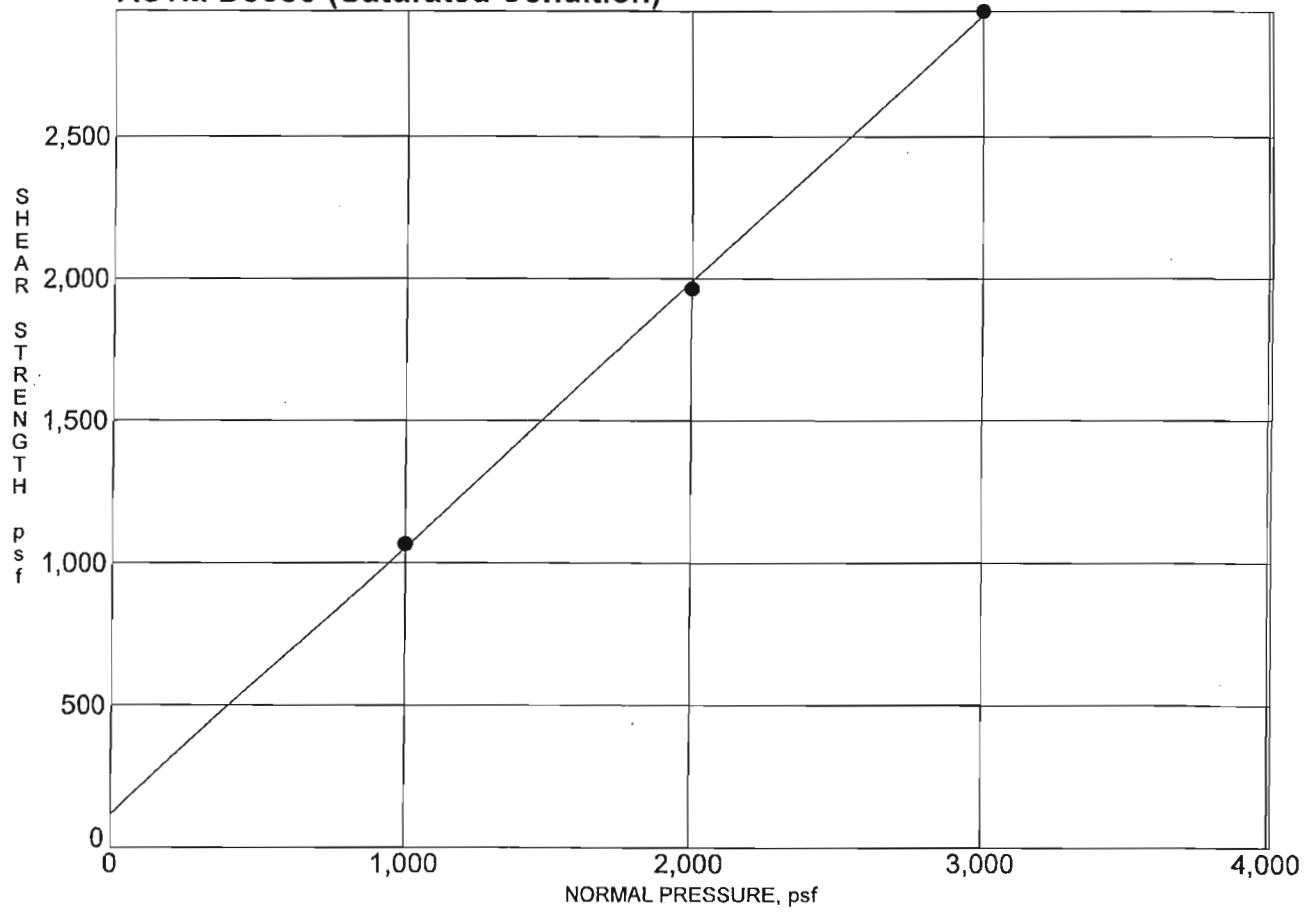
Physical Properties of Soils and Aggregates

Client: Acura Engineering
Peter Rupal
5235 South 39th Street
Phoenix, Arizona 85040

Project No. 071837LA
Lab No. 271401
Field No. B-2
Report Date: 10/31/2007

Project: Direct Shear Samples (A07-0129G)
Location: Not Available
Material: Native Soil — Sampled By: Client — Date: 10/1/2007
Source: Ring Sample — Submitted By: Client — Date: 10/1/2007
Supplier: N/A — Authorized By: Client — Date: 10/1/2007
Sample Location: 15' to 16'

ASTM D3080 (Saturated Condition)



Specimen Identification		Cohesion, psf	Friction Angle	DD	MC%
● 271401	0.0	116.0	43.0	94.9	16.5

LABORATORY REPORT

SPEEDIE AND ASSOCIATES
GEOTECHNICAL / ENVIRONMENTAL / MATERIALS ENGINEERS
3331 EAST WOOD STREET, PHOENIX, ARIZONA 85040

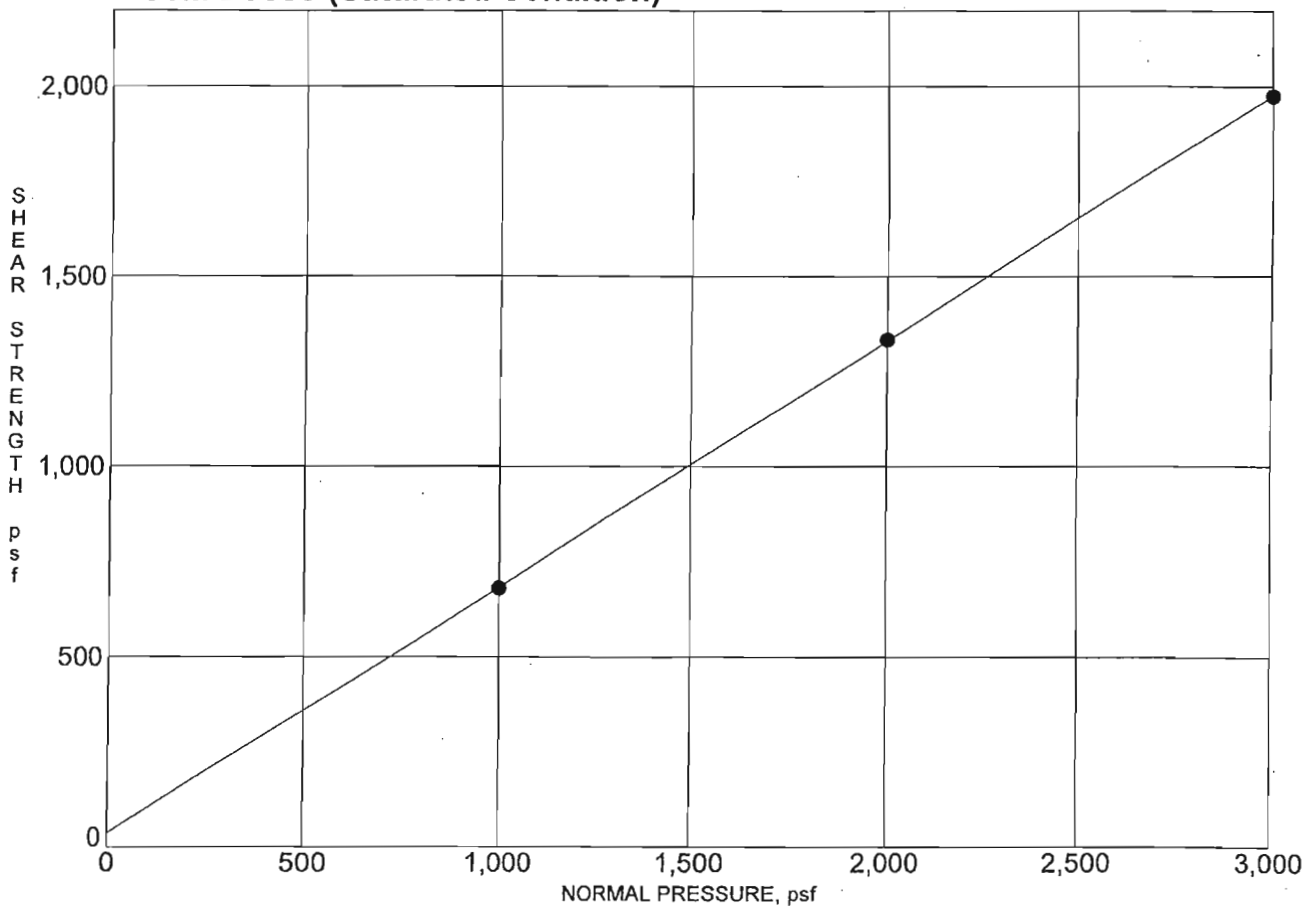
Physical Properties of Soils and Aggregates

Client: Acura Engineering
Peter Rupal
5235 South 39th Street
Phoenix, Arizona 85040

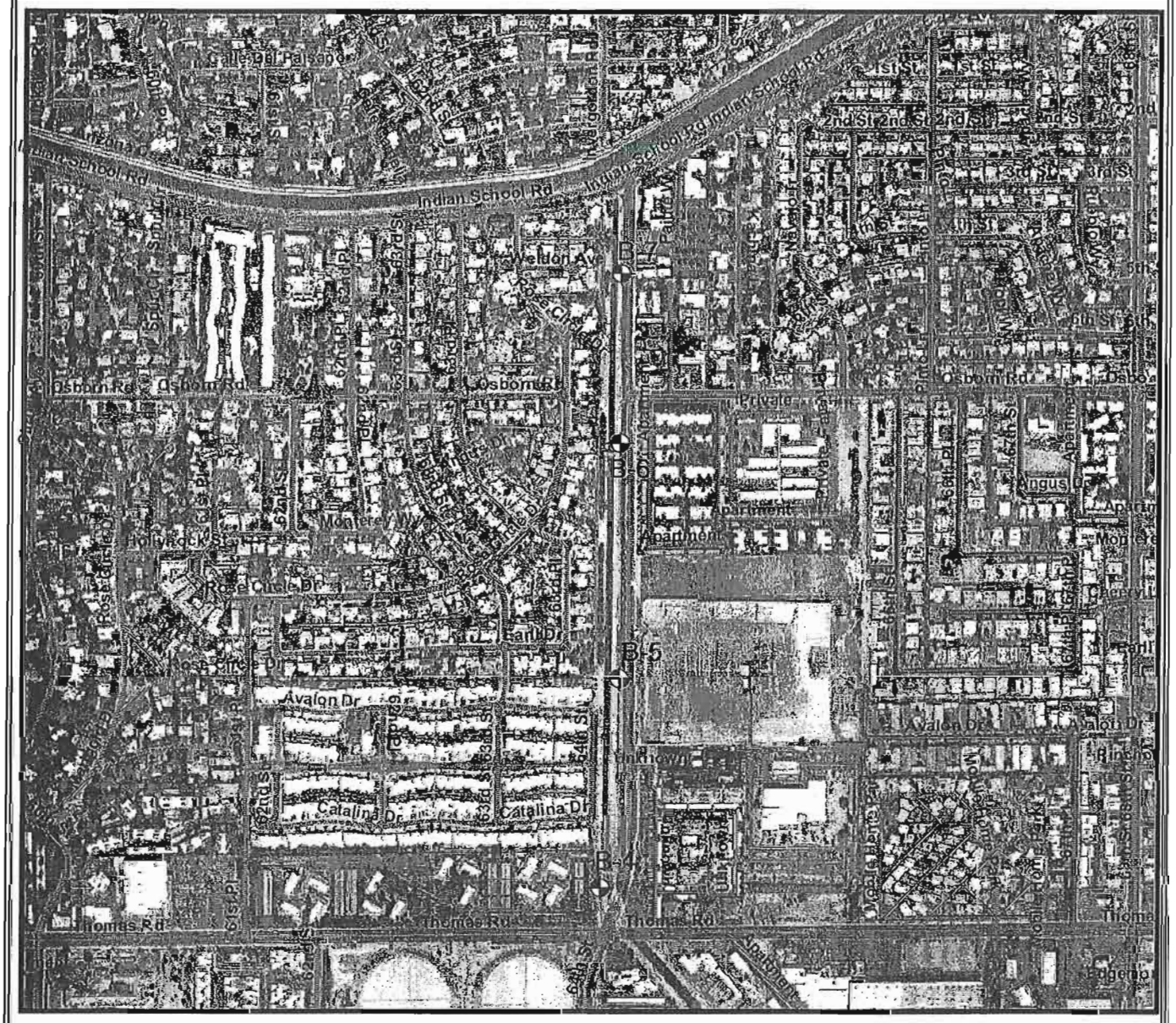
Project No. 071837LA
Lab No. 271402
Field No. B-3
Report Date: 10/31/2007

Project: Direct Shear Samples (A07-0129G)
Location: Not Available
Material: Native Soil — Sampled By: Client — Date: 10/1/2007
Source: Ring Sample — Submitted By: Client — Date: 10/1/2007
Supplier: N/A — Authorized By: Client — Date: 10/1/2007
Sample Location: 5' to 6'

ASTM D3080 (Saturated Condition)



Specimen Identification		Cohesion, psf	Friction Angle	DD	MC%
● 271402	0.0	36.0	33.0	99.4	12.7



Acura ENGINEERING

5235 South 39th Street
Phoenix, Arizona

Project No.: A07-0129G

Name & Location:
Cross Cut Canal Multi-Use Path Improvements
64th St. st Thomas & Indian School Roads
Scottsdale, AZ

⊕ Approximate Boring Location

N

Sample	Natural Moisture (%)	In-Place Dry Density (pcf)	Atterberg Limits		Grain Size Distribution (% Finer)					pH	Resistivity (ohm-cm)	Soluble Sulfates (ppm)	Chlorides (ppm)	USCS
			LL	PI	#200	#40	#10	#4	3"					
B-4 @ 0-5'	5.0	-	20	4	22	53	85	94	-	-	-	35	123	SC-SM
B-4 @ 1-2'	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-
B-5 @ 0-1'	5.2	103.5	-	-	-	-	-	-	-	-	-	-	-	-
B-5 @ 0.1-5'	7.5	-	36	15	43	60	73	84	-	-	-	25	215	SC
B-6 @ 0-5'	9.6	-	43	20	40	60	77	88	-	-	-	17	520	SC
B-6 @ 1-2'	8.4	96.9	-	-	-	-	-	-	-	-	-	-	-	-
B-7 @ 0-1'	9.1	111.2	-	-	-	-	-	-	-	-	-	-	-	-
B-7 @ 0.1-5'	14.7	-	33	17	52	71	84	94	-	-	-	24	150	CL

NV - no value
NP - non-plastic
NOTE: Sieve analysis results do not include particle sizes greater than 3" in diameter. Refer to boring logs for notes on presence of cobbles and boulder-sized particles.

Acura Engineering
5235 South 39th Street
Phoenix, Arizona 85040
Telephone: 602-458-7484
Fax: 602-458-9246

LABORATORY TEST SUMMARY

Project Name: Cross Cut Canal Multi-Use Path Improvements

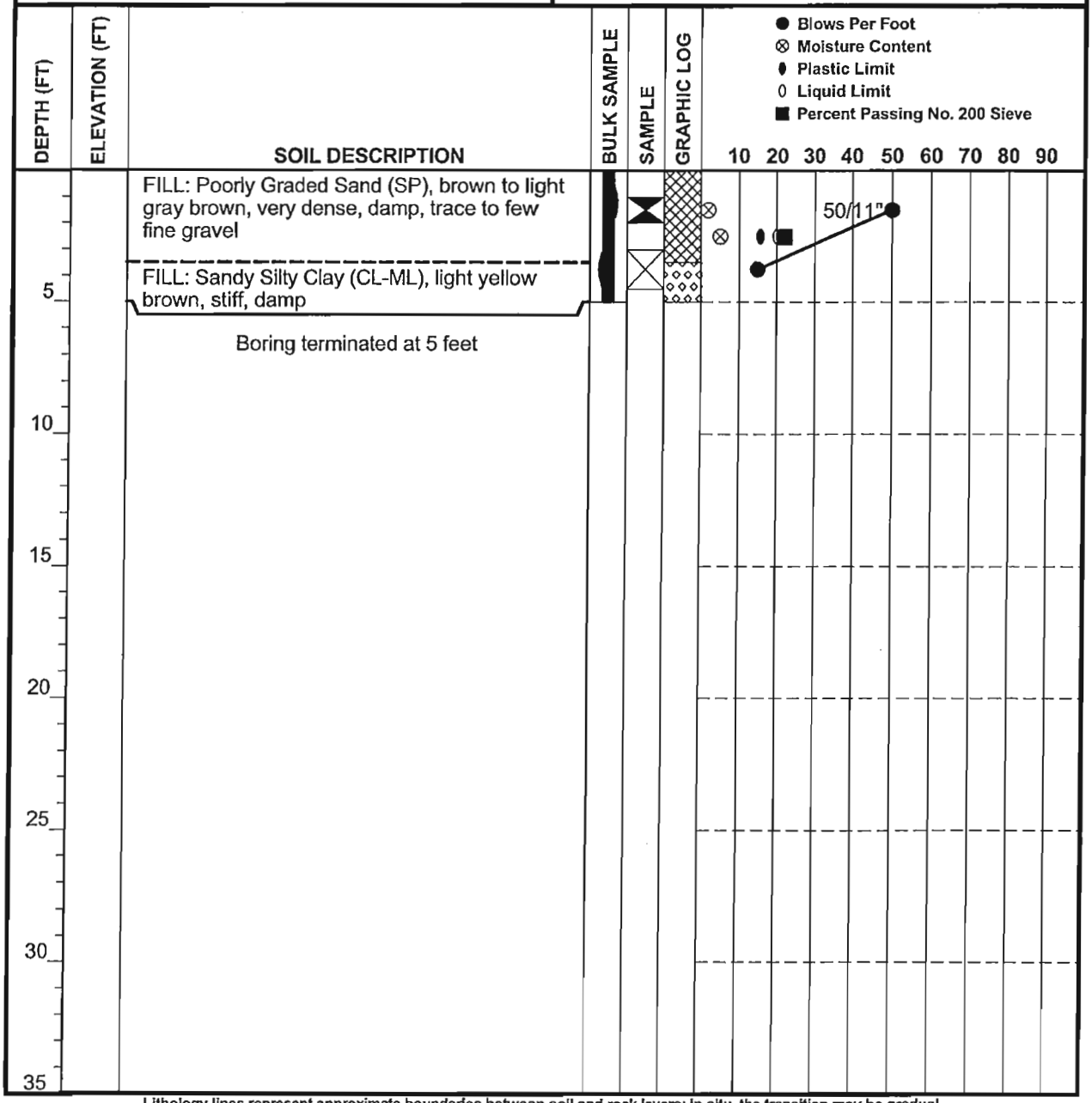
Location: 64th St/ Thomas to Indian School Rd
Scottsdale, AZ

Project No.: A07-0129G

Acura ENGINEERING

Boring No. B-4
Sheet 1 of 1

Logged By: J Householder	Project No.: A07-0129G
Driller: D & S Drilling, Inc	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 5	
Other: Multi-Use Path	Date Started: 12/21/2007 Date Completed: 12/21/2007
	Depth to Groundwater (ft): No Water

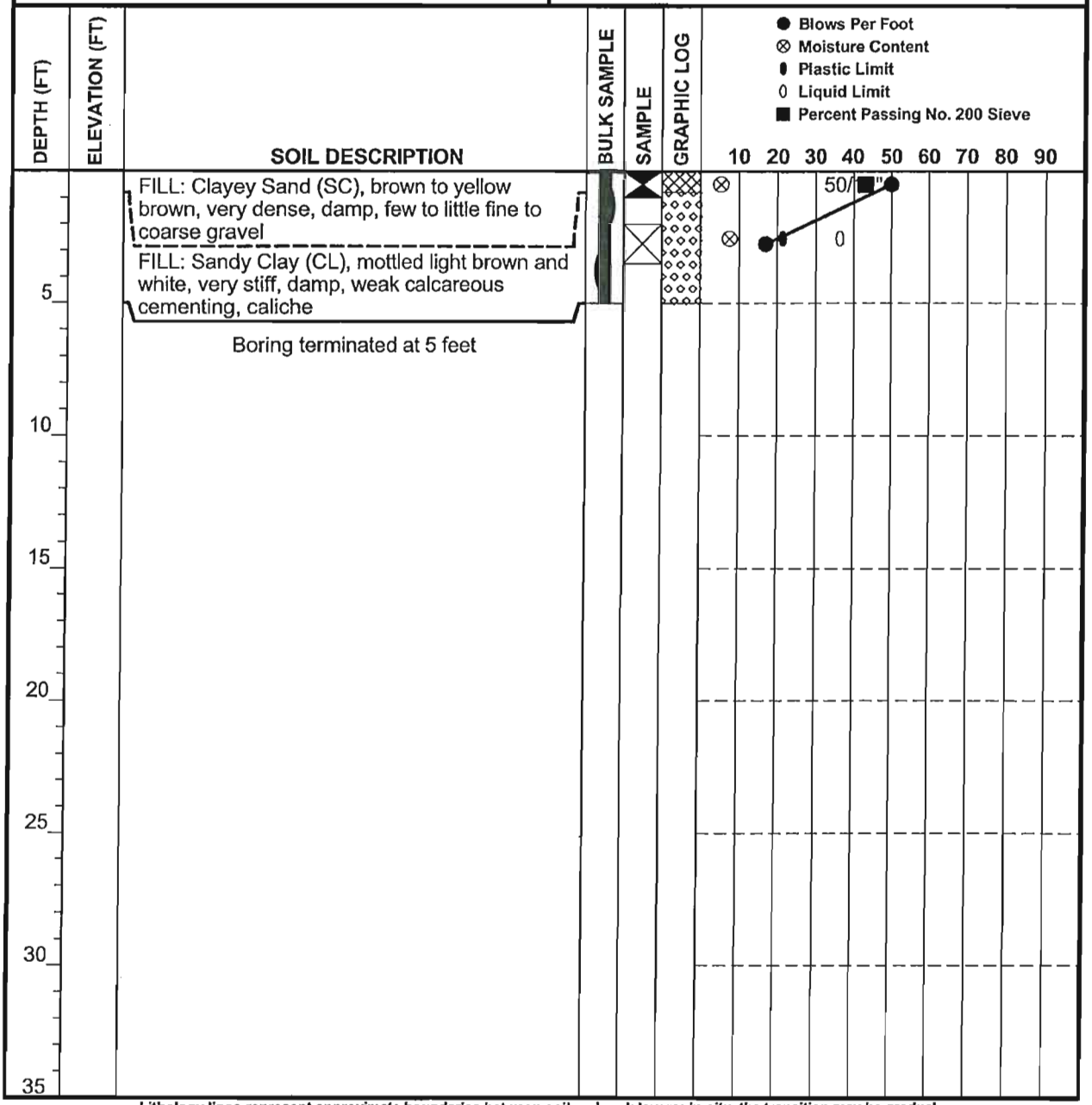


Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

Acura ENGINEERING

Boring No. B-5
Sheet 1 of 1

Logged By: J Householder	Project No.: A07-0129G
Driller: D & S Drilling, Inc	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 5	
Other: Multi-Use Path	Date Started: 12/21/2007 Date Completed: 12/21/2007
	Depth to Groundwater (ft): No Water

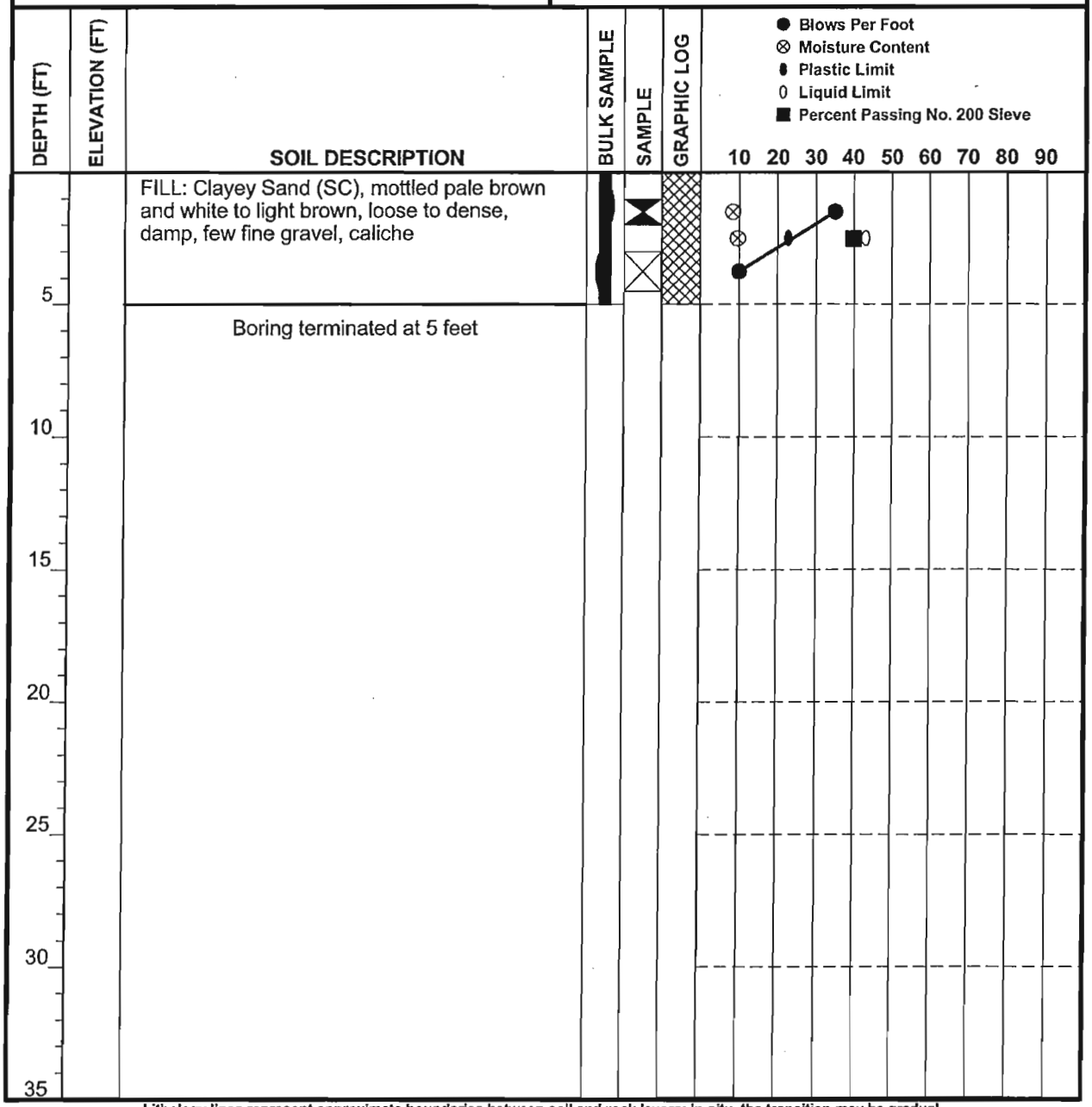


Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

Acura ENGINEERING

Boring No. B-6
Sheet 1 of 1

Logged By: J Householder	Project No.: A07-0129G
Driller: D & S Drilling, Inc	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 5	
Other: Multi-Use Path	Date Started: 12/21/2007 Date Completed: 12/21/2007
	Depth to Groundwater (ft): No Water

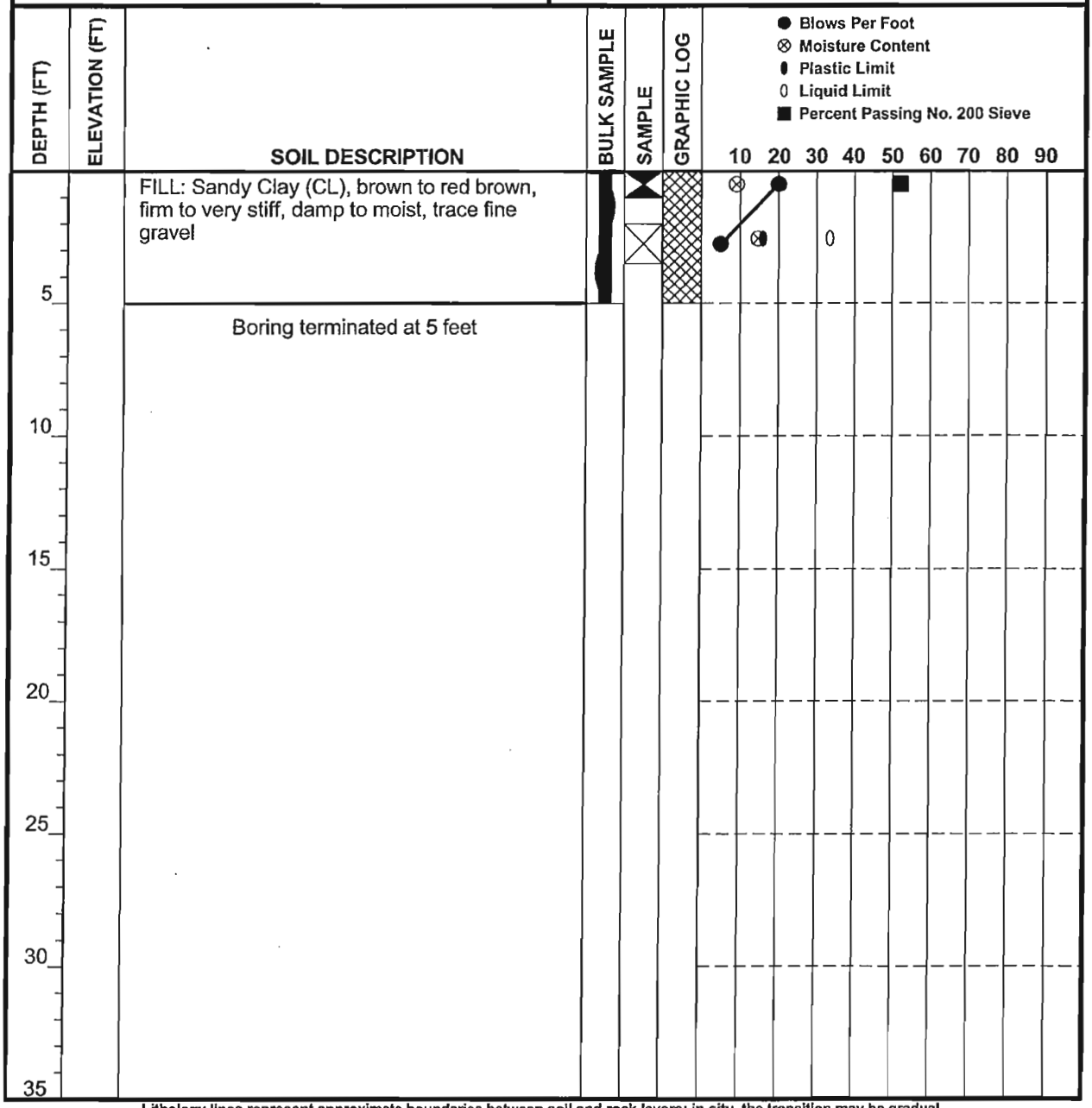


Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

Acura ENGINEERING

Boring No. B-7
Sheet 1 of 1

Logged By: J Householder	Project No.: A07-0129G
Driller: D & S Drilling, Inc	Project Name: Cross Cut Canal Multi-Use Path Improvements
Auger/Core Type: 7" Hollow Stem Auger	
Approximate Elevation (ft): Not Available	Location: 64th St/ Thomas to Indian School Rd Scottsdale, AZ
Total Boring Depth (ft): 5	
Other: Multi-Use Path	Date Started: 12/21/2007 Date Completed: 12/21/2007
	Depth to Groundwater (ft): No Water



Lithology lines represent approximate boundaries between soil and rock layers; in-situ, the transition may be gradual.
The Exploratory Boring Log should not be used separately from the interpretations and recommendations presented in the report.

Acura Engineering - 5235 S. 39th Street - Phoenix, Arizona 85040 - 602.458.7484 - Fax 602.458.9246

INVITATION FOR BID #10PB002

CROSSCUT CANAL MULTI-USE PATH PHASE II

SCOTTSDALE PROJECT NO. T0703
ADOT PROJECT NO. ARRA-SCT-0(200)A
ADOT TRACS NO. 0000 MA SCT SL602 01C

APPENDIX B: (MULTI-USE PATH LIGHTING)

16010 – Electrical Basic Requirements
16060 – Grounding
16120 – Wire and Cable – 600 Volt and Below
16130 – Raceways and Boxes
16135 – Electrical: Exterior Underground
16490 – Overcurrent and Short Circuit Protective Devices
16493 – Control Equipment Accessories
16500 – Interior and Exterior Lighting

November 2009

2006/01/17

SECTION 16010
ELECTRICAL: BASIC REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Basic requirements for electrical systems.

B. Related Sections include but are not necessarily limited to:
   1. Section 16120 - Wire and Cable - 600 Volt and Below.
   2. Section 16130 - Raceways and Boxes.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American National Standards Institute (ANSI):
      a. C2, National Electrical Safety Code.
   2. National Fire Protection Association (NFPA):
      a. 70, National Electrical Code (NEC).
   3. Underwriters Laboratories, Inc. (UL).

B. Where Underwriters Laboratories, Inc. (UL) test procedures have been established for the product type, use UL or ETL Testing Laboratories (ETL) approved electrical equipment and provide with the UL or ETL label.

1.3 DEFINITIONS

A. For the purposes of providing materials and installing electrical work the following definitions shall be used.
   1. Outdoor area: Exterior locations where the equipment is normally exposed to the weather and including below grade structures, such as vaults, manholes, handholes and in-ground pump stations.
   2. Shop fabricated: Manufactured or assembled equipment for which a UL test procedure has not been established.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect nameplates on electrical equipment to prevent defacing.

1.5 AREA DESIGNATIONS

A. Designation of an area will determine the NEMA rating of the electrical equipment enclosures, types of conduits and installation methods to be used in that area.
   1. Outdoor areas:
      a. Wet.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Refer to specific Division 16 sections and specific material paragraphs below.

B. Provide all components of a similar type by one manufacturer.

2.2 MATERIALS

A. Field touch-up of galvanized surfaces.
   1. Zinc-rich primer.
      a. One coat, 3.0 mils, ZRC by ZRC Products.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install and wire all equipment, including prepurchased equipment, and perform all tests necessary to assure conformance to the Drawings and Specifications and ensure that equipment is ready and safe for energization.

B. Install equipment in accordance with the requirements of:
   1. NFPA 70 (NEC).
   2. ANSI C2.
   3. The manufacturer's instructions.

C. Do not use equipment that exceed dimensions or reduce clearances indicated on the Drawings or as required by the NFPA 70 (NEC).

D. Install equipment plumb, square and true with construction features and securely fastened.

E. Install electrical equipment, including pull and junction boxes, minimum of 6 IN from process, gas, air and water piping and equipment.

F. Install equipment so it is readily accessible for operation and maintenance, is not blocked or concealed and does not interfere with normal operating and maintenance requirements of other equipment.

G. Do not place equipment fabricated from aluminum in direct contact with earth or concrete.

H. Screen or seal all openings into equipment mounted outdoors to prevent the entrance of rodents and insects.

3.2 FIELD QUALITY CONTROL

A. Replace equipment and systems found inoperative or defective and re-test.

B. The protective coating integrity of support structures and equipment enclosures shall be maintained.
   1. Repair galvanized components utilizing a zinc rich paint.
   2. Repair painted components utilizing touch up paint provided by or approved by the manufacturer.
   3. Repair surfaces which will be inaccessible after installation prior to installation.
   4. See Section 16130 for requirements for conduits and associated accessories.

END OF SECTION

2006/01/17

SECTION 16060
GROUNDING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Material and installation requirements for grounding system(s).

B. Related Sections include but are not necessarily limited to:
   1. Section 16010 - Electrical: Basic Requirements.
   2. Section 16120 - Wire and Cable - 600 Volt and Below.
   3. Section 16130 - Raceways and Boxes.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. ASTM International (ASTM):
      a. B8, Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
   2. Institute of Electrical and Electronics Engineers (IEEE):
      a. 837, Qualifying Permanent Connections Used in Substation Grounding.
   3. National Fire Protection Association (NFPA):
      a. 70, National Electrical Code (NEC).
   4. Underwriters Laboratories, Inc. (UL):
      a. 467, Electrical Grounding and Bonding Equipment.

B. Assure ground continuity is continuous throughout the entire Project.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Ground rods and bars and grounding clamps, connectors and terminals:
      a. Burndy.
      b. Harger Lightning Protection.
      c. Heary Brothers.
      d. Joslyn.
      e. Robbins Lightning Protection.
      f. Thomas & Betts (Blackburn).
      g. Thompson.
   2. Exothermic weld connections:
      a. Erico Products Inc., Cadweld.
      b. Harger Lightning Protection.
      c. Thermoweld.

2.2 COMPONENTS

A. Wire and Cable:
   1. Bare conductors: Soft drawn stranded copper meeting ASTM B8.
   2. Insulated conductors: Color coded green, per Section 16120.

B. Conduit: As specified in Section 16130.

C. Ground Rods:
   1. 3/4 IN x 10 FT.
   2. Copperclad:
      a. Heavy uniform coating of electrolytic copper molecularly bonded to a rigid steel core.
      b. Corrosion resistant bond between the copper and steel.
      c. Hard drawn for a scar-resistant surface.

D. Grounding Clamps, Connectors and Terminals:
   1. Mechanical type:
      a. Standards: UL 467.
      b. High copper alloy content.
   2. Compression type suitable for direct burial in earth or concrete:
      a. Standards: UL 467, IEEE 837.
      b. High copper alloy content.
      c. Non-reversible.

E. Exothermic Weld Connections:
   1. Copper oxide reduction by aluminum process.
   2. Molds properly sized for each application.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:
   1. Install products in accordance with manufacturer's instructions.
   2. Size grounding conductors and bonding jumpers in accordance with NFPA 70 Article 250, except where larger sizes are indicated on the Drawings.
   3. Remove paint, rust, or other nonconducting material from contact surfaces before making ground connections.
   4. Do not splice grounding conductors except at ground rods.
   5. Install ground rods and grounding conductors in undisturbed, firm soil.
      a. Provide excavation required for installation of ground rods and ground conductors.
      b. Use driving studs or other suitable means to prevent damage to threaded ends of sectional rods.
      c. Unless otherwise specified, connect conductors to ground rods with compressor type connectors or exothermic weld.
      d. Provide sufficient slack in grounding conductor to prevent conductor breakage during backfill or due to ground movement.
      e. Backfill excavation completely, thoroughly tamping to provide good contact between backfill materials and ground rods and conductors.
   6. Do not use exothermic welding if it will damage the structure the grounding conductor is being welded to.

B. Grounding Electrode System:
   1. Provide a grounding electrode system in accordance with NFPA 70 Article 250 and as indicated on the Drawings.
   2. Single ground rod grounding system:
      a. Single ground rod system consists of a single ground rod.
      b. Place ground rod a minimum of 2 FT-6 IN below grade.
      c. Grounding conductor: Bare conductor, sized as indicated on the Drawings.
   3. Triad grounding system:

a. Triad consists of three ground rods arranged in a triangle separated by 10 FT and a grounding conductor interconnecting each ground rod.
b. Place first ground rod a minimum of 2 FT-6 IN below grade.
c. Grounding conductor: Bare conductor, size as indicated on the Drawings.

C. Supplemental Grounding Electrode:
1. Provide the following grounding in addition to the equipment ground conductor supplied with the feeder conductors whether or not shown on the Drawings.
2. Metal light poles:
a. Connect metal pole to a ground rod.
b. Grounding conductor: Bare #6 AWG minimum.

D. Raceway Bonding/Grounding:
1. All metallic conduit shall be installed so that it is electrically continuous.
2. All conduits to contain a grounding conductor with insulation identical to the phase conductors, unless otherwise indicated on the Drawings.
3. NFPA 70 required grounding bushings shall be of the insulating type.
4. Provide double locknuts at all panels.
5. Bond all conduit, at entrance and exit of equipment, to the equipment ground bus or lug.
6. Provide bonding jumpers if conduits are installed in concentric knockouts.
7. Make all metallic raceway fittings and grounding clamps tight to ensure equipment grounding system will operate continuously at ground potential to provide low impedance current path for proper operation of overcurrent devices during possible ground fault conditions.

E. Equipment Grounding:
1. All utilization equipment shall be grounded with an equipment ground conductor.

F. Handhole (Pull box) Grounding:
1. Provide a ground rod in each handhole (pull box) with exposed metal parts.
a. Expose a minimum of 4 IN of the rod above the floor for field connections to the rod.
2. Connect all exposed metal parts (e.g., conduits and cable racks) to the ground rod.

3.2 FIELD QUALITY CONTROL

A. Leave grounding system uncovered until observed by Owner.

B. Provide a continuity test on the components of the grounding electrode system.

C. Complete grounding system: Resistance of 5 ohms or less.

D. Test resistance of installed ground system after backfilling and before connection to any other grounded system including underground piping, utility services or other building ground systems.
1. Test ground grid resistance by fall-of-potential method.
2. Perform test at the main ground bar.

END OF SECTION

2006/01/17

SECTION 16130
RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Material and installation requirements for:
      a. Conduits.
      b. Conduit fittings.
      c. Conduit supports.
      d. Outlet boxes.

B. Related Sections include but are not necessarily limited to:
   1. Section 16010 - Electrical: Basic Requirements.
   2. Section 16135 - Electrical: Exterior Underground.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American National Standards Institute (ANSI):
      a. C80.1, Rigid Steel Conduit - Zinc-Coated.
   2. ASTM International (ASTM):
      a. D1784, Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
      b. D2564, Solvent Cements for (PVC) Plastic Pipe, Tubing, and Fittings.
   3. National Electrical Manufacturers Association (NEMA):
      a. TC 2, Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).
      b. TC 3, PVC Fittings for Use with Rigid PVC Conduit and Tubing.
      c. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
   4. National Fire Protection Association (NFPA):
      a. 70, National Electrical Code (NEC).
   5. Underwriters Laboratories, Inc. (UL):
      a. 6, Rigid Metal Conduit.
      b. 360, Liquid-Tight Flexible Steel Conduit.
      c. 467, Grounding and Bonding Equipment.
      d. 514A, Standard for Safety Metallic Outlet Boxes.
      e. 514B, Fittings for Cable and Conduit.
      f. 651, Schedule 40 and 80 Rigid PVC Conduit.
      g. 886, Outlet Boxes and Fittings for Use in Hazardous (Classified) Locations.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Rigid metallic conduits:
      a. Allied Tube and Conduit Corporation.
      b. Triangle PWC Inc.
      c. Western Tube and Conduit Corporation.
      d. Wheatland Tube Company.

e. LTV Steel Company.
2. Rigid non-metallic conduit:
a. Carlon.
b. Certainteed Corporation.
c. Canadian General Electric Company.
d. Western Plastics Corporation.
3. Conduit fittings and accessories:
a. Appleton.
b. Carlon.
c. Crouse-Hinds.
d. Killark.
e. OZ Gedney Company.
f. RACO.
g. Steel City.
h. Thomas and Betts.
i. Western Plastics Company.

2.2 RIGID METALLIC CONDUITS

A. Rigid Galvanized Steel Conduit (RGS):
1. Mild steel with continuous welded seam.
2. Metallic zinc applied by hot-dip galvanizing or electro-galvanizing. Threads galvanized after cutting.
3. Internal coating: Baked lacquer, varnish or enamel for a smooth surface.
4. Standards: ANSI C80.1, UL 6.

2.3 RIGID NON-METALLIC CONDUIT

A. Schedules 40 (PVC-40) and 80 (PVC-80):
1. Polyvinyl-chloride (PVC) plastic compound which meets, as a minimum, ASTM D1784 cell classification PVC 12233-A, B, or C.
2. Rated for direct sunlight exposure.
3. Fire retardant and low smoke emission.
4. Shall be suitable for use with 90 DegC wire and shall be marked "maximum 90 DegC".
5. Standards: ASTM D1784, NEMA TC 2, UL 651.

2.4 CONDUIT FITTINGS AND ACCESSORIES

A. Fittings for Use with RGS:
1. Locknuts:
a. Threaded steel or malleable iron.
b. Gasketed or non-gasketed.
c. Grounding or non-grounding type.
2. Bushings:
a. Threaded, insulated metallic.
b. Grounding or non-grounding type.
3. Hubs: Threaded, insulated and gasketed metallic for raintight connection.
4. Couplings:
a. Threaded straight type: Same material and finish as the conduit with which they are used on.
b. Threadless type: Gland compression or self-threading type, concrete tight.
5. Unions:
a. Threaded galvanized steel or zinc plated malleable iron.
6. Conduit bodies (elbows and tees):
a. Body: Zinc plated cast iron or cast copper free aluminum with threaded hubs.
b. Standard and mogul size.

c. Cover: Clip-on type with stainless steel screws. Gasketed or non-gasketed galvanized steel, zinc plated cast iron or cast copper free aluminum.

7. Conduit bodies (round):
   a. Body: Zinc plated cast iron or cast copper free aluminum with threaded hubs.
   b. Cover: Threaded screw on type, gasketed, galvanized steel, zinc plated cast iron or cast copper free aluminum.
8. Expansion couplings:
   a. 2 IN nominal straight-line conduit movement in either direction.
   b. Galvanized steel with insulated bushing.
   c. Gasketed for wet locations.
   d. Internally or externally grounded.
9. Standards: UL 467, UL 514B, UL 886.

B. Fittings for Use with Rigid Non-Metallic Conduit:
1. Coupling and adapters shall be of the same material, thickness, and construction as the conduits with which they are used.
2. Standards: UL 651, NEMA TC 3.
3. Solvent cement for welding fittings shall be supplied by the same manufacturer as the conduit and fittings.
   a. Standard: ASTM D2564.

C. Weather and Corrosion Protection Tape:
1. PVC based tape, 10 mils thick.
2. Protection against moisture, acids, alkalis, salts and sewage and suitable for direct bury.
3. Used with appropriate pipe primer.

2.5 ALL RACEWAY AND FITTINGS

A. Mark Products:
1. Identify the nominal trade size on the product.
2. Stamp with the name or trademark of the manufacturer.

PART 3 - EXECUTION

3.1 RACEWAY INSTALLATION - GENERAL

A. Shall be in accordance with the requirements of NFPA 70.

B. Size of Raceways:
1. Raceway sizes are shown on the Drawings, if not shown on the Drawings, then size in accordance with NFPA 70.
2. Unless specifically indicated otherwise, the minimum raceway size shall be:
   a. Conduit: 3/4 IN.

C. Field Bending and Cutting of Conduits:
1. Utilize tools and equipment recommended by the manufacturer of the conduit, designed for the purpose and the conduit material to make all field bends and cuts.
2. Do not reduce the internal diameter of the conduit when making conduit bends.
3. Prepare tools and equipment to prevent damage to the PVC coating.
4. Degrease threads after threading and apply a zinc rich paint.
5. Debur interior and exterior after cutting.

D. Male threads of conduit systems shall be coated with an electrically conductive anti-seize compound.

E. The protective coating integrity of conduits, fittings, and accessories shall be maintained.

1. Repair RGS utilizing a zinc rich paint.
2. Repair surfaces which will be inaccessible after installation prior to installation.

F. Remove moisture and debris from conduit before wire is pulled into place.
   1. Pull mandrel with diameter nominally 1/4 IN smaller than the interior of the conduit, to remove obstructions.
   2. Swab conduit by pulling a clean, tight-fitting rag through the conduit.
   3. Tightly plug ends of conduit with tapered wood plugs or plastic inserts until wire is pulled.

G. Only nylon or polyethylene rope shall be used to pull wire and cable in conduit systems.

H. Where portions of a raceway are subject to different temperatures and where condensation is known to be a problem, as in cold storage areas of buildings or where passing from the interior to the exterior of a building, the raceway shall be sealed to prevent circulation of warm air to colder section of the raceway.

3.2 RACEWAY ROUTING

A. Raceways shall be routed in the field unless otherwise indicated.
   1. Conduit and fittings shall be installed, as required, for a complete system that has a neat appearance and is in compliance with all applicable codes.

B. Maintain minimum spacing between parallel conduit and piping runs in accordance with the following when the runs are greater than 30 FT:
   1. Between 600 V and less AC and greater than 600 Vac: 2 IN.
   2. Between process, gas, air and water pipes: 6 IN.

C. Conduits shall be installed to eliminate moisture pockets. Where water cannot drain to openings, provide drain fittings in the low spots of the conduit run.

D. Conduit shall not be routed on the exterior of structures except as specifically indicated on the Drawings.

3.3 RACEWAY APPLICATIONS

A. Permitted raceway types per wire or cable types:
   1. Power wire: All raceway types.

B. Permitted raceway types per area designations:
   1. Wet areas:
      a. RGS.

C. Permitted raceway types per routing locations:
   1. Direct buried conduits and ductbanks:
      a. PVC-40.
      b. 90 degree elbows for transitions to above grade:
         1) RGS wrapped with factory applied weather and corrosion protection tape.
         2) PVC-RGS.
      c. Long sweeping bends greater than 15 degrees:
         1) RGS wrapped with factory applied weather and corrosion protection tape.
         2) PVC-RGS.

D. Underground Conduit: See Section 16135.

3.4 CONDUIT FITTINGS AND ACCESSORIES

A. Rigid non-metallic conduit and fittings shall be joined utilizing solvent cement.
   1. Immediately after installation of conduit and fitting, the fitting or conduit shall be rotated 1/4 turn to provide uniform contact.

B. Install Expansion Fittings:

1. Where conduits span structural expansions joints.
2. Where conduits are exposed to the sun and conduit run is greater than 200 FT.
3. Elsewhere as identified on the Drawings.

C. Threaded connections shall be made wrench-tight.

D. Conduit Joints shall be watertight:
1. Where subjected to possible submersion.
2. In areas classified as wet.
3. Underground.

E. Terminate Conduits:
1. In NEMA 4 and 4X rated enclosures:
a. With a threaded, insulated and gasketed hub.

END OF SECTION

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SECTION 16135
ELECTRICAL: EXTERIOR UNDERGROUND

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Material and installation requirements for:
      a. Handhole (pull box).
      b. Underground conduits and ductbanks.

B. Related Sections include but are not necessarily limited to:
   1. Section 16010 - Electrical: Basic Requirements.
   2. Section 16060 - Grounding.
   3. Section 16120 - Wire and Cable - 600 Volt and Below.
   4. Section 16130 - Raceways and Boxes.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Prefabricated composite handholes (pull box):
      a. Quazite Composolite.
      b. Armorcast Products Company.
      c. Synertech.

2.2 HANDHOLES (PULL BOX)

A. Prefabricated Composite Material Handholes (pull box):
   1. Fiberglass reinforced polymer concrete.
   2. Minimum load ratings (UL Tier 10):
      a. Design load: 10,400 LBS.
      b. Test load: 22,568 LBS.
   3. Open bottom.
   4. Stackable design as required for specified depth.
   5. Cover:
      a. Engraved legend of "ELECTRIC".
      b. Non-gasketed bolt down with stainless steel penta head bolts.
      c. One or multiple sections so the maximum weight of a section is 125 LBS.
   6. Cover lifting hook: 24 IN minimum in length.

2.3 UNDERGROUND WARNING TAPE

A. Materials: Polyethylene.

B. Size:
   1. 6 IN wide (minimum).
   2. Thickness: 3.5 mils.

C. Fabrication:
   1. Legend: Preprinted and permanently imbedded.

2. Message continuous printed.
3. Tensile strength: 1750 psi.

D. Color: As specified.

2.4 UNDERGROUND CONDUIT AND ACCESSORIES

A. Duct Terminators:
1. Window type.
2. ABS plastic.
3. Provide for conduit entrance.
4. Designed for installation into handhole (pull box) walls for a watertight seal.
5. Sufficient space between terminator walls to allow for placement of rebar and concrete.

B. Conduit: See Section 16130.

C. Duct Spacers/Supports:
1. High density polyethylene or high impact polystyrene.
2. Interlocking.
3. Provide 2 IN minimum spacing between conduits.

PART 3 - EXECUTION

3.1 GENERAL

A. Drawings indicate the intended location of handholes (pull box) and routing of ductbanks and direct buried conduit.
1. Field conditions may affect actual routing.

B. Handhole (pull box) Locations:
1. Approximately where shown on the Drawings.
2. As required for pulling distances.
3. As required to keep pulling tensions under allowable cable tensions.
4. As required for number of bends in ductbank routing.
5. Shall not be installed in a swale or ditch.
6. Determine the exact locations after careful consideration has been given to the location of other utilities, grading, and paving.
7. Locations are to be approved by the Engineer prior to excavation and placement or construction of handholes (pull box).

C. Install products in accordance with manufacturer's instructions.

D. Install handholes (pull box) in conduit runs where indicated or as required to facilitate pulling of wires or making connections.

3.2 HANDHOLES (PULL BOX)

A. Prefabricated Composite Material Handholes (pull box):
1. For use in areas subjected to occasional non-deliberate vehicular traffic.
2. Place handhole (pull box) on a foundation of compacted 1/4 to 1/2 IN crushed rock or gravel a minimum of 8 IN thick and 6 IN larger than handholes (pull box) footprint on all sides.
3. Provide concrete encasement ring around handhole (pull box) per manufacturers installation instructions (minimum of 10 IN wide x 12 IN deep).
4. Install so that the surrounding grade is 1 IN lower than the top of the handhole (pull box).
5. Size: As indicated on the Drawings.
6. Provide cable rails and pulling eyes as needed.

3.3 UNDERGROUND CONDUITS

A. General Installation Requirements:
   1. Ductbank types per location:
      a. Direct-buried ductbanks:
         1) All locations.
   2. Do not place soil until conduits have been observed by the Engineer.
   3. Ductbanks shall be sloped a minimum of 4 IN per 100 FT or as detailed on the Drawings. Low points shall be at or handholes (pull box).
   4. During construction and after conduit installation is complete, plug the ends of all conduits.
   5. Provide conduit supports and separators of concrete, plastic, or other suitable nonmetallic non-decaying material designed for that purpose.
      a. Place supports and separators for rigid nonmetallic conduit on maximum centers as indicated for the following trade sizes:
         1) 1 IN and less: 3 FT.
         2) 1-1/4 to 3 IN: 5 FT.
         3) 3-1/2 to 6 IN: 7 FT.
      b. Place supports and separators for rigid steel conduit on maximum centers as indicated for the following trade sizes:
         1) 1 IN and less: 10 FT.
         2) 1-1/4 to 2-1/2 IN: 14 FT.
         3) 3 IN and larger: 20 FT.
      c. Securely anchor conduits to supports and separators to prevent movement during placement of concrete or soil.
   6. Stagger conduit joints at intervals of 6 IN vertically.
   7. Make conduit joints watertight and in accordance with manufacturer's recommendations.
   8. Accomplish changes in direction of runs exceeding a total of 15 degrees by long sweep bends having a minimum radius of 25 FT. Sweep bends may be made up of one or more curved or straight sections or combinations thereof.
   9. Furnish manufactured bends at end of runs. Minimum radius of 18 IN for conduits less than 3 IN trade size and 36 IN for conduits 3 IN trade size and larger.
   10. Field cuts requiring tapers shall be made with the proper tools and shall match factory tapers.
   11. After the conduit run has been completed, pull a standard flexible mandrel having a length of not less than 12 IN and a diameter approximately 1/4 IN less than the inside diameter of the conduit through each conduit. Then pull a brush with stiff bristles through each conduit to remove any foreign material left in conduit.
   12. Pneumatic rodding may be used to draw in lead wire.
      a. Install a heavy nylon cord free of kinks and splices in all unused new ducts.
      b. Extend cord 3 FT beyond ends of conduit.
   13. Transition from rigid non-metallic conduit to rigid metallic conduit, per Section 16130, prior to entering a structure or going above ground. Except rigid non-metallic conduit may be extended directly to handholes (pull box), pad mounted transformer boxes and other exterior pad mounted electrical equipment where the conduit is concealed within the enclosure.
      a. Terminate rigid PVC conduits with end bells.
      b. Terminate steel conduits with insulated bushings.
   14. Place warning tape in trench directly over ductbanks.
      a. Letter height: 1-1/4 IN minimum.
      b. Location:
         1) Where trench is 12 IN or more below finished grade: In trench 6 IN below finished grade.
         2) Where trench is less than 12 IN below finished grade: In trench 3 IN below finished grade.

c. Electrical Power (e.g., low and medium voltage):
    1) Color: Red with black letters.
    2) Legend:
        a) First line: “CAUTION CAUTION CAUTION”.
        b) Second line: “BURIED ELECTRIC LINE BELOW”.
d. Communications (e.g., telephone, instrumentation, LAN, SCADA):
    1) Color: Orange with black letters.
    2) Legend:
        a) First line: “CAUTION CAUTION CAUTION”.
        b) Second line: “BURIED COMMUNICATION LINE BELOW”.

B. Direct-Buried Ductbank:
1. Ductbank system consists of conduits directly buried in earth with separations between different cabling types as required in Section 16130 or as detailed on the Drawings.
2. Install so that the top of the uppermost conduit, at any point:
    a. Is not less than 24 IN below grade.
    b. Is below pavement sub-grading.
3. Provide a uniform minimum clearance of 2 IN between conduits or as required in Section 16130 for different cabling types.
    a. Maintain the separation of multiple planes of conduits by the following method:
        1) Install the multilevel ductbank one level at a time.
            a) Each level is backfilled with the appropriate amount of soil to maintain the required separations.

C. Direct-Buried Conduit:
1. Ductbank system consisting of a conduit directly buried in earth.
2. Install so that top of conduit, at any point:
    a. Is not less than 24 IN below grade.
    b. Is below pavement sub-grading.

END OF SECTION

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SECTION 16490
OVERCURRENT AND SHORT CIRCUIT PROTECTIVE DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Low voltage circuit breakers.

B. Related Sections include but are not necessarily limited to:
   1. Section 16010 - Electrical: Basic Requirements.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. National Electrical Manufacturers Association (NEMA):
      a. AB 1, Molded Case Circuit Breakers, Molded Case Switches, and Circuit-Breaker Enclosures.
   2. Underwriters Laboratories, Inc. (UL):
      a. 489, Molded Case Circuit Breakers and Circuit Breaker Enclosures.
      b. 943, Ground Fault Circuit Interrupters.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Circuit breakers:
      a. Cutler-Hammer.
      b. General Electric Company.
      c. Square D Company.
      d. Siemens.

2.2 CIRCUIT BREAKERS

A. Molded Case Type:
   1. General:
      a. Standards: NEMA AB 1, UL 489.
      b. Unit construction.
      c. Over-center, toggle handle operated.
      d. Quick-make, quick-break, independent of toggle handle operation.
      e. Manual and automatic operation.
      f. All poles open and close simultaneously.
      g. Three position handle: On, off and tripped.
      h. Molded-in ON and OFF markings on breaker cover.
      i. One-, two- or three-pole as indicated on the Drawings.
      j. Current and interrupting ratings as indicated on the Drawings.
      k. Bolt on type.
   2. Thermal magnetic type:
      a. Inverse time overload and instantaneous short circuit protection by means of a thermal magnetic element.

b. Frame size 150 amp and below:
    1) Non-interchangeable, non-adjustable thermal magnetic trip units.
c. Frame sizes 225 to 250 amp:
    1) Interchangeable and adjustable instantaneous thermal magnetic trip units.
d. Ground Fault Circuit Interrupter (GFCI) Listed:
    1) Standard: UL 943.
    2) One- or two-pole as indicated on the Drawings.
    3) Class A ground fault circuit.
    4) Trip on 5 mA ground fault (4-6 mA range).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Current and interrupting ratings as indicated on the Drawings.

B. Series rated systems not acceptable.

C. Devices shall be ambient temperature compensated.

D. Circuit Breakers:
    1. Molded case circuit breakers shall incorporate the following, unless indicated otherwise on the Drawings:
        a. Frame sizes 250 amp and less shall be thermal magnetic type.

END OF SECTION

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SECTION 16493
CONTROL EQUIPMENT ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Operator control devices (selector switches, pushbuttons, indicator lights, etc.).
   2. Control devices (timers, relays, contactors, etc.).
   3. Control panels.

B. Related Sections include but are not necessarily limited to:
   1. Section 16010 - Electrical: Basic Requirements.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. National Electrical Manufacturers Association (NEMA):
      a. ICS 2, Industrial Control Devices, Controllers, and Assemblies.
      b. 250, Enclosures for Electrical Equipment (1000 Volt Maximum).
   2. Underwriters Laboratories, Inc. (UL):
      a. 508, Industrial Control Equipment.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Pilot devices and relays:
      a. Idec.
      b. Potter & Brumsfield.
      c. Time Mark.
      d. ATC Diversified Electronics.
   2. Contactors:
      a. Automatic Switch Company (ASCO).
      b. Cutler-Hammer.
      c. General Electric Company.
      d. Square D Company.
      e. Siemens.
      f. Allen Bradley.
   3. Photocells:
      a. Grasslin.
      b. Tork.
      c. Intermatic.
      d. Paragon.
   4. Terminal blocks:
      a. Phoenix Contact.
      b. Allen-Bradley.
   5. Enclosures:
      a. Hoffman Engineering Co.
      b. Wiegmann.

c. B-Line Circle AW.
d. Adalet.

2.2 PILOT DEVICES

A. General Requirements:
1. Standards: NEMA ICS 2, UL 508.
2. Heavy-duty NEMA 4/13 watertight/oiltight.
3. Mounting hole: 30.5 mm.
4. Contact blocks: 10 amp, NEMA A600 rated, number as required to fulfill functions shown or specified.
5. Legend plate marked as indicated on Drawings or specified.

B. Selector Switches:
1. Two, three- or four-position rotary switch as required to fulfill functions shown or specified.
2. Maintained contact type.
3. Knob or lever type operators.

C. Pushbuttons:
1. Non-illuminated type:
a. Protective boot.
b. Momentary contact.
c. Standard flush and mushroom operators.
d. Button colors:
1) Green for START or ON
2) Red for STOP or OFF.
e. Emergency stop pushbuttons: Mushroom head operator and maintained contact.
2. Illuminating type:
a. Protective boot.
b. Momentary contact.
c. Standard flush operator.
d. Serves as both pushbutton control and indicating light.
e. Lens colors:
1) Green for START or ON.
2) Red for STOP or OFF.
f. Resistor-type full voltage light unit with lens and panel gasket.

D. Indicating Lights:
1. Allowing replacement of bulb without removal from control panel.
2. Lamp: LED, 120 V or 24 V as required.
3. Full voltage type.
4. Push-to-test indicating lights.
5. Glass lens.
6. Color code lights as follows:
a. Green: ON or running.
b. Amber: Standby; auto mode; ready.
c. Red: OFF or stopped.

2.3 RELAYS

A. General Requirements:
1. Standards: NEMA ICS 2, UL 508.

B. Control Relays:
1. General purpose (ice cube) type:
a. Plug-in housing.
b. Clear polycarbonate dust cover with clip fastener.

c. Coil voltage: 120 Vac or as required.
d. Contacts:
1) 10 amp continuous.
2) Silver cadmium oxide.
3) Minimum of 3 SPDT contacts.
e. Sockets: DIN rail mounted.
f. Internal neon or LED indicator is lit when coil is energized.
g. Manual operator switch.
2. Industrial type:
a. Coil voltage: 120 Vac or as required.
b. Contacts:
1) 10 amp, NEMA A600 rated.
2) Double break, silver alloy.
3) Convertible from normally open to normally closed or vice versa, without removing any wiring.
4) Expandable from 2 poles to 12 poles.
c. Provide contacts for all required control plus two spares.

2.4 CONTACTORS

A. General Requirements:
1. Standards: NEMA ICS 2, UL 508.

B. Lighting and Remote Control Switches:
1. Electrically operated, electrically held.
2. Coil voltage: 120 Vac or as required.
3. Contacts: Totally enclosed, double-break silver-cadmium-oxide.
4. Rated for ballasted lighting, tungsten and general use loads.
5. Number of poles, continuous ampere rating and voltage, as indicated on Drawings or as specified.
6. Auxiliary control relays, as indicated on Drawings or as specified.
7. Auxiliary contacts, as indicated on Drawings or as specified.

2.5 PHOTOCELLS

A. Photocells:
1. Weatherproof enclosure.
2. Adjustable turn-on range, initially set at 1.0 footcandles. Turn-off level approximately three times turn-on.
3. Provide time delay device to eliminate nuisance switching.
4. Voltage, amperage and/or wattage ratings as required for the application.

2.6 TERMINATION EQUIPMENT

A. General Requirements:
1. Modular type with screw compression clamp.
2. Screws: Stainless steel.
3. Current bar: Nickel-plated copper alloy.
4. Thermoplastic insulation rated for -40 to +90 DegC.
5. Wire insertion area: Funnel-shaped to guide all conductor strands into terminal.
6. End sections and end stops at each end of terminal strip.
7. Machine-printed terminal markers on both sides of block.
8. Spacing: 6 mm.
9. Wire size: 22-12 AWG.
10. Rated voltage: 600 V.
11. DIN rail mounting.

B. Standard-type block:

1. Rated current: 30 A.
2. Color: Gray body.

C. Bladed-type disconnect block:
   1. Terminal block with knife blade disconnect which connects or isolated the two sides of the block.
   2. Rated current: 10 A.
   3. Color:
      a. Panel control voltage leaves enclosure - normal: Gray body, orange switch.
      b. Foreign voltage entering enclosure: Orange body, orange switch.

D. Grounded-type block:
   1. Electrically grounded to mounting rail.
   2. Terminal ground wires and analog cable shields.
   3. Color: Green and yellow body.

E. Fuse Holders:
   1. Blocks can be ganged for multi-pole operation.
   2. Spacing: 9.1 mm.
   3. Wire size: 30-12 AWG.
   4. Rated voltage: 300 V.
   5. Rated current: 12 A.
   6. Fuse size: 1/4 x 1-1/4.
   7. Blown fuse indication.
   8. DIN rail mounting.

2.7 ENCLOSURES

A. Control Panels:
   1. NEMA 4X rated:
      a. Body and cover: 14 GA Type 304 or 316 stainless steel.
      b. Seams continuously welded and ground smooth.
      c. No knockouts.
      d. External mounting flanges.
      e. Hinged door and stainless steel screws and clamps.
      f. Door with oil-resistant gasket.
   2. Control panel miscellaneous accessories:
      a. Back plane mounting panels: Steel with white enamel finish or Type 304 stainless steel.
      b. Interiors shall be white or light gray in color.
      c. Wire management duct:
         1) Bodies: PVC with side holes.
         2) Cover: PVC snap-on.
         3) Size as required.
      d. Rigid handles for covers larger than 9 SF or heavier than 25 LBS.
      e. Split covers when heavier than 25 LBS.
      f. Floor stand kits made of same material as the enclosure.
      g. Weldnuts for mounting optional panels and terminal kits.
   3. Standards: NEMA 250, UL 508.

2.8 MAINTENANCE MATERIALS

A. Provide 100 percent replacement lamps for indicating lights.

B. Provide 10 percent replacement caps for indicating lights.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install as indicated and in accordance with manufacturer's recommendations and instructions.

B. Control Panels:
   1. Size as required to mount the equipment.
   2. Permitted uses of NEMA 4X enclosure:
      a. Surface mounted in areas designated as wet.

END OF SECTION

2006/01/17

SECTION 16500
INTERIOR AND EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Material and installation requirements for:
      a. Exterior site lighting fixtures.
      b. Lamps.
      c. Ballasts.
      d. Lighting poles.
      e. Lighting control.

B. Related Sections include but are not necessarily limited to:
   1. Section 16010 - Electrical: Basic Requirements.
   2. Section 16120 - Wire and Cable - 600 Volt and Below.
   3. Section 16493 - Control Equipment Accessories.

1.2 QUALITY ASSURANCE

A. Referenced Standards:
   1. American National Standards Institute (ANSI):
      a. C82 Series, Standards for Electric Lamp Ballasts.
   2. Certified Ballast Manufacturers (CBM).
   3. Code of Federal Regulations (CFR):
      a. 47 CFR 18, Industrial, Scientific and Medical Equipment.
   4. Institute of Electrical and Electronics Engineers (IEEE):
      a. C62.41, Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.
   5. Underwriters Laboratories, Inc. (UL):
      a. 198C, High-Interrupting-Capacity Fuses, Current Limiting Type.
      b. 935, Fluorescent Lamp Ballasts.
      c. 1029, High Intensity Discharge Lamp Ballasts.
      d. 1570, Fluorescent Lighting Fixtures.
      e. 1572, High Intensity Discharge Lighting Fixtures.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
   1. Lighting fixtures: See Fixture Schedule.
   2. Lamps:
      a. Osram/Sylvania.
      b. General Electric.
      c. Philips.
   3. Ballasts: Fixture manufacturer's standard.
   4. Poles: Fixture manufacturer's standard.

2.2 GENERAL REQUIREMENTS

A. All lighting fixtures and electrical components:
   1. UL labeled.
   2. Fixtures complete with lamps and ballasts.

B. No live parts normally exposed to contact.

C. When intended for use in wet areas: Mark fixtures "Suitable for wet locations."

D. When intended for use in damp areas: Mark fixtures "Suitable for damp locations" or "Suitable for wet locations."

2.3 LIGHT FIXTURES

A. High Intensity Discharge:
   1. UL 1572.
   2. Finish: Manufacturer's standard polyester, acrylic enamel or epoxy powder coating applied after fabrication. Manufacturer's standard color or special color specified in Fixture Schedule.
   3. Prewired and provided with lamps that are properly mated to the ballast operating characteristics.

2.4 LAMPS

A. High Intensity Discharge (HID) Lamps:
   1. Metal halide lamps:
      a. Correlated color temperature of 4000 degrees Kelvin.
      b. Minimum color rendering index (CRI) of 65.
   2. Uncoated (clear) unless identified as coated in the fixture schedule.
   3. The specified fixture in the fixture schedule shall dictate the required lamp operating position and base type.
   4. Provide lamps that have the correct bulb shape for the fixture specified.

2.5 BALLASTS

A. High Intensity Discharge Ballasts:
   1. ANSI C82.4, UL 1029.
   2. Metal halide:
      a. Input voltage variation: +10 percent.
      b. Maximum lamp regulation spread: 20 percent.
      c. Minimum power factor: 90 percent.
      d. Starting current: Not greater than operating current.
      e. Maximum input voltage dip: 40 percent.
      f. Crest factor: 1.5 to 1.8.
      g. Types:
         1) Lead-type regulators: Constant wattage autotransformer (CWA) and pulse start.
         2) Lag-type regulators: Magnetic regulator and pulse start.
      h. Contain no Polychlorinated Biphenyls (PCB's).
   3. Ballasts for exterior use:
      a. Starting temperature: -20 DegF.

2.6 POLES

A. As scheduled or noted on the Drawings.

2.7 MAINTENANCE MATERIALS

A. Furnish a minimum of 2 or 10 percent of total of each type and wattage of lamps, whichever is greater.

B. Furnish a minimum of 10 percent of total of each type and amperage of fuses for fixtures indicated to be fused.

C. Spare parts are to be stored in a box clearly labeled as to its contents.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Mount lighting fixtures at heights indicated on fixture schedule or as indicted on Drawings.

B. Install exterior fixtures so that water can not enter or accumulate in the wiring compartment.

C. Ground fixtures and ballasts.

3.2 POLE INSTALLATION

A. Concrete Poles:
   1. Mounted on cast-in-place foundations, as detailed on Drawings.
      a. Reinforcing steel:
         1) ASTM A615, Grade 60.
   2. Direct buried concrete pole, as detailed on Drawings.
   3. Protect pole finish during installation. Repair damage to pole finish with manufacturer approved repair kit.

B. Ground poles as indicated on the Drawings.

C. Conductors:
   1. See Section 16120 for required underground conductors.
   2. Use interior building wire, as specified in Section 16120, from pole base to fixture, #12 AWG minimum.

D. Overcurrent and Short Circuit Protection:
   1. Protect each phase with a UL Class CC fuse:
      a. Size: 3 times load current.
      b. Standard: UL 198C.
   2. Fuseholder:
      a. Watertight, in-line and break-a-way style.
      b. Accept up to a 30 A, 600 V fuse.
      c. Neutral conductor shall utilize a fuseholder with a solid copper rod.
      d. Conductor terminal: Adequate size for the installed conductors.

3.3 LIGHTING CONTROL

A. See Section 16493 for lighting control equipment.

B. Pole mounted fixtures controlled as detailed on Drawings.

3.4 ADJUST AND CLEAN

A. Replace all inoperable lamps with new lamps prior to final acceptance.

END OF SECTION

INVITATION FOR BID #10PB002

CROSSCUT CANAL MULTI-USE PATH PHASE II

SCOTTSDALE PROJECT NO. T0703
ADOT PROJECT NO. ARRA-SCT-0(200)A
ADOT TRACS NO. 0000 MA SCT SL602 01C

APPENDIX C: (SRP DESIGN LAYOUT)

November 2009

CUSTOMER APPROVED SRP DESIGN
PREPARED BY: C-
ACCEPTED BY:
DATE: 8/27/2009

WO# 806521125
BA# 796-383-006

DRAWING NOT TO SCALE

VICINITY MAP
21E 7 1/8N

2710 N. 64TH ST LIT

N

JOB SITE [X]

E. THOMAS RD

N. 64TH ST

DETAIL

RV

5'

C-1-2½"K (25' BY CUST)
C-1-U510X (25' BY SRP)

P-1319 B
25-127636

P-1319 C
25-168955

CUSTOMER IS RESPONSIBLE FOR INSTALLING DB-120 2½" CONDUIT ALL 90'S MUST BE 36" RADIUS 90'S. TRENCH DEPTH MUST BE A MINIMUM OF 48" DEEP TO TOP OF CONDUIT

INSPECTIONS: (602) 236-0936

DESIGNER: CHRISTOPHER YBARRA (602) 236-5762

PR-1696
PR-1697B
PR-1691C
2"PL
30' 2-2A
2-85A BL
30' 1-2A
1-85A A

PD-1316
600A GOS

C-1-2½"K (25' BY CUST)
C-1-U510X (25' BY SRP)

P-1319 B
25-127636

P-1319 C
25-168955

10'

5'

N

RV

JOB NAME: CITY OF SCOTTSDALE
JOB ADDRESS: 2710 N. 64TH ST LIT
FORTY ACRE: BD 27 13
POINT OF CONTACT: TODD TAYLOR
(480) 312-7691

E. THOMAS RD
7 1/8 N

SRP CREW TO C-U510X (25') AND SET A NEW METER. CC REQUIRED CITY AND SRP INSPECTIONS REQUIRED

N. 64TH ST
21E

	A	B	C	D	E	F	G	H	I	J	K	L	M	
1	TAX CODE													1
2	POINT NO.		ACT QUANT		ACT QUANT		ACT QUANT		ACT QUANT		ACT QUANT		ACT QUANT	2
3	RUN SPAN ☐													3
4	PRIMARY													4
5	STD NO.													5
6														6
7	NEUT. ☐													7
8	STD NO.													8
9	SL-DO SEC ☐													9
10	STD NO.													10
11														11
12														12
13														13
14														14
15														15
16														16
17														17
18														18
19	POLE													19

JO WO # 40/ACRE CODE SHEET OF

SALT RIVER PROJECT GRID SKETCH WORK AUTHORIZATION

JO WO # _____ ACTION CODE _____ DATE PREPARED _____
ORIG NAME _____ NO. _____ COMPL. NEED/ PRIORITY _____
DIST # _____ PHONE NO. _____

S.R.P. SURVEY TO ☐ LOCATE ☐ STAKE
LOC. _____ REQ. NO. _____
JOB NAME _____ JOINT USE MEMO
MAP 1/4 ___ S ___ T ___ R ___ TELCO _____ CABLE _____
APPROVED _____

REVISIONS

DATE	TYPE

Dig Safely. 1-800-STAKE-IT

TWO WORKING DAYS BEFORE YOU DIG CALL FOR THE BLUE STAKES
Inside Maricopa County 602-263-1100
Outside Maricopa County 1-800-STAKE-IT or (1-800-782-5348)

SRP
SALT RIVER PROJECT
P. O. BOX 52025, PHOENIX, AZ 85072-2025

X88-190 11/03

INVITATION FOR BID #10PB002
CROSSCUT CANAL MULTI-USE PATH PHASE II
SCHEDULE OF BID ITEMS

LINE ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
104150	PROJECT SIGNS (NEW)	2	EA	$	$
105801	CONSTRUCTION SURVEYING	1	LS	$	$
105820	AS-BUILTS	1	LS	$	$
205001	ROADWAY EXCAVATION	770	CY	$	$
206001	STRUCTURAL EXCAVATION	188	CY	$	$
206101	STRUCTURAL BACKFILL	113	CY	$	$
220401	PLAIN RIPRAP	27	CY	$	$
220703	RIPRAP BASKET, WIRE TIED	225	SY	$	$
301201	SUBGRADE PREPARATION	4,073	SY	$	$
324108	8” PCC PAVEMENT, (CLASS A)	4,049	SY	$	$
324121	PCC PAVEMENT (8” THICK) (CLASS A) (COLORED)	24	SY	$	$
336301	PAVEMENT REPLACEMENT, COS 2200	21	SY	$	$
340001	VERT CURB & GUTTER, MAG 220 TYPE “A”	4	LF	$	$
340204	CONCRETE SIDEWALK, MAG 230	19	SF	$	$
350001	REMOVE AC PAVEMENT	21	SY	$	$
350041	REMOVE CURB & GUTTER	4	LF	$	$
350061	REMOVE CONCRETE SIDEWALK, DRIVEWAYS & SLABS	1,893	SF	$	$
350062	REMOVE MULTI USE PATH	2,615	SF	$	$
350604	REMOVE SIGN, POST & POST BASE	5	EA	$	$
350606	RELOCATE SIGN PANEL	7	EA	$	$

LINE ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
350633	ADJUST PULL BOX TO GRADE	3	EA	$	$
350710	REMOVE (& SALVAGE EXISTING ELECTRICAL SERVICE CABINET)	1	LS	$	$
350711	REMOVE (CATCH BASIN)	2	EA	$	$
350713	REMOVE (BRIDGE RETAINING WALL)	30	LF	$	$
350716	REMOVE (RIPRAP)	29	CY	$	$
350717	REMOVE (SRP VERT CURB)	57	LF	$	$
401001	TRAFFIC CONTROL	1	LS	$	$
402111	WHITE STRIPE PAINT 4” EQUIV	7,253	LF	$	$
402112	YELLOW STRIPE PAINT 4” EQUIV	1,305	LF	$	$
402131	PAVEMENT LEGEND AND SYMBOL (PAINT)	18	EA	$	$
402401	REFLECTIVE TRAFFIC SIGN PANEL	38	SF	$	$
402411	TELESPAR SIGN POST, COS 2131	74	LF	$	$
402412	TELESPAR SIGN POST BASE ASSEMBLY (SLEEVE & ANCHOR) COS 2131	8	EA	$	$
403010	ELECTRICAL CONDUIT (2”) (COX SUPPLIED)	530	LF	$	$
403011	ELECTRICAL CONDUIT (2 ½”) (DB120)	29	LF	$	$
403034	CONDUIT IN BRIDGE (2”) (PVC)	379	LF	$	$
403706	MISCELLANEOUS WORK (LIGHTING)	39	EA	$	$
418102	REMOVEABLE BOLLARD	1	EA	$	$
430001	DECOMPOSED GRANITE, COS 2620 (3/4”) (2” DEPTH)	6,100	SY	$	$
430201	SHRUBS, 1 GAL. (COS 2620)	123	EA	$	$
430202	SHRUBS, 5 GAL. (COS 2620)	315	EA	$	$

LINE ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
440002	BACKFLOW PREVENTER WITH CAGE (1”) & PAD	1	EA	$	$
440101	CONTROL CABINET WITH CLOCK	1	EA	$	$
440201	IRRIGATION PIPING (MAINLINE)	1,121	LF	$	$
440202	IRRIGATION PIPING (LATERALS)	2,189	LF	$	$
440261	IRRIGATION SLEEVING	132	LF	$	$
440301	IRRIGIATION CONTROL VALVES (ELECTRIC)	3	EA	$	$
440302	IRRIGATION QUICK-COUPLER VALVE	3	EA	$	$
440341	IRRIGATION GATE VALVES	2	EA	$	$
440361	IRRIGATION FLUSH VALVE	7	EA	$	$
440501	IRRIGATION EMITTER (SINGLE)	438	EA	$	$
440801	MISC. IRRIGATION ITEMS	1	LS	$	$
440930	IRRIGATION RESTORATION	1	LS	$	$
505101	CATCH BASIN (DETAIL DA)	2	EA	$	$
505102	CATCH BASIN (REINFORCED CONCRETE PLUG) (DETAIL DA)	2	EA	$	$
505200	BRIDGE PEDESTRIAN RAIL (ADOT STD B-22.40 & B-22.41)	30	LS	$	$
502054	DRILL SHAFT FOUNDATION (36” DIAMETER, PED BRIDGE)	120	LF	$	$
505825	RETAINING WALL (BRW1, BRW2, BRW3 & BRW4)	568	SF	$	$
505827	RETAINING WALL (RW-1)	155	SF	$	$
505905	STORM WTR POLUTION PREVENTION PLAN	1	LS	$	$

INVITATION FOR BID #10PB002
CROSSCUT CANAL MULTI-USE PATH PHASE II
SCHEDULE OF BID ITEMS

LINE ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
520001	STEEL HANDRAILS, COS 2508	32	LF	$	$
603004	4” HDPE	534	LF	$	$
610812	WATER SERVICE CONNECTION, 1 INCH	1	EA	$	$
610952	1” TYPE K SOFT COPPER TUBING	66	LF	$	$
610980	1” PRESSURE GAUGE	2	EA	$	$
610981	1” PRESSURE RELIEF VALVE	1	EA	$	$
618118	18” RGRCP	7	LF	$	$
640401	UTILITY TRENCHING (COX)	78	LF	$	$
640402	UTILITY TRENCHING (SRP)	29	LF	$	$
640403	UTILITY TRENCHING (APS)	15	LF	$	$
800001	MOBILAZATION / DE-MOBILAZATION	1	LS	$	$
900002	CONTRACTOR QUALITY CONTROL	1	LS	$	$
900003	PET WASTE STATE (DETAIL B)	3	LS	$	$
900004	CONCRETE TRASH RECEPTACLE	3	LS	$	$
900005	ELECTRICAL METER SERVICE (SEE T-03.01)	1	LS	$	$
900006	CLEAN OUT EXISTING CATCH BASIN & STORM DRIAN PIPE	3	LS	$	$
				SUBTOTAL (MULTI-USE PATH):	$

INVITATION FOR BID # 10PB002
CROSSCUT CANAL MULTI-USE PATH PHASE II
SCHEDULE OF BID ITEMS

LINE ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
PEDESTRIAN BRIDGE (MUP RED STEEL TRUSS SUPERSTRUCTURE)				$	$
	PREFABRICATED STEEL STRUSS SUPERSTRUCTURE	1	LS	$	$
	STRUCTURAL EXCAVATION	24	CY	$	$
	STRUCTURAL BACKFILL	6	CY	$	$
	STRUCTURAL CONCRETE (CLASS S) (F'C = 3,000)	16	CY	$	$
	APPROACH SLAB (SD 2.01)	220	SF	$	$
	REINFORCED STEEL	1,568	LB	$	$
505300	LUMP SUM STRUCTURE (TOTAL OF PRECEEDING STRUCTURE ITEMS)	1	LS	$	$
	SUBTOTAL (PEDESTRIAN BRIDGE) :				$
	SUBTOTAL (MULTI-USE PATH) :				$
	SUBTOTAL (PEDESTRIAN BRIDGE) :				$
9230001	ALLOWANCE TO PROVIDE ON-THE-JOB TRAINING	125	HR	$ .80	$ 100.00
	SUBTOTAL:				$
	PROJECT TOTAL:				$

TOTAL COST OF PROJECT IN WRITING: _____

_____

COMPANY NAME: _____

BID FORM

BID NUMBER: 10PB002 **PROJECT NUMBER**: T0703

In compliance with the Advertisement for Bids, by the City of Scottsdale Purchasing Division, the undersigned bidder:

Having examined the contract documents, work site, and being familiar with the conditions to be met, hereby submits the following bid for all labor, materials, and equipment, for the completion of the work listed and agrees to execute the contract documents and furnish the required bonds and certificates of insurance for the completion of said work, at the locations and for the prices set forth hereinafter.

Understands that construction of this project shall be in accordance with all applicable M.A.G. Standard Specifications, Details, Uniform Codes, Ordinances, and Regulations as otherwise required by the Project Plans and Special Provisions.

Understands that the bid shall be submitted with a bid guarantee of cashier's check or surety bond for an amount not less than (10%) ten percent of the amount bid.

Understands that a notarized Non Collusion Affidavit shall be submitted with the bid for it to be considered complete.

Agrees that upon receipt of Notice of Award, from the City of Scottsdale, to execute the contract documents.

Work shall be completed within 180 calendar days, as specified in the Notice to Proceed. The time allowed for completion of the work includes lead time for obtaining the necessary material and/or equipment.

The bidder hereby acknowledges receipt of and agrees his bid is based on the following Addenda.

ADDENDUM _____ DATED _____ ADDENDUM _____ DATED _____
ADDENDUM _____ DATED _____ ADDENDUM _____ DATED _____

The undersigned agrees to construct this project at the prices shown on the Schedule of Bid

items, totaling _____ Dollars

($_____). This amount constitutes the Base Bid. Such base bid includes State, County and City privilege (sales) taxes.

Amounts shall be shown in both words and figures. In the event unit price extension errors are discovered on the Schedule of Bid Items submitted, the errors will be corrected by the City and the corrected total bid cost shall govern.

The City Council reserves the right, as the interest of the City requires, to reject any or all bids, to waive any informality in bids received, to award a contract by accepting or rejecting any alternate bid(s) (additive or subtractive) and reserves the right to reject the bid(s) of any bidder who has previously failed to perform competently in any contract with the City.

NAME OF FIRM: _____

SIGNATURE: _____
(Officer of Company)

BID FORM SIGNATURE PAGE

BID NUMBER 10PB002 **PROJECT NUMBER** T0703

THIS BID IS SUBMITTED BY _____ a corporation organized under the laws of the State of _____ a partnership consisting of _____ or individual trading as _____ of the City of _____. By submitting this bid (I), (WE) hereby agree to enter into the Contract included in the bid documents and (I), (WE) further agree that this bid incorporates by reference to the same extent as if set forth herein in full all of the terms and conditions contained in said bid documents identified as BID NO. (bid number), including Plans, Standard Specifications and Details, Project Manuals, Special Provisions, Addenda, if any, Performance Bond, Payment Bond and Certificate of Insurance.

Respectfully submitted:

FIRM: _____

ADDRESS: _____

TEL. NO. _____ DATE: _____

_____ BY: _____

WITNESS: OFFICER AND TITLE (SEAL)

IF BIDDER IS AN INDIVIDUAL

BID BOND

BID NUMBER: 10PB002 **PROJECT NUMBER**: T0703

KNOW ALL MEN BY THESE PRESENTS: That we _____, as Principal, and _____, as Surety, are held and firmly bound unto the City of Scottsdale in the penal sum of Ten Percent (10%) of Bid Amount, Dollars ($_____) lawful money of the United States of America, to be paid to the order of the City of Scottsdale, for which payment, well and truly to be made, we bind ourselves, our successors and assigns, signed with our seals and dated _____, 200__. The conditions of the above obligation are such that whereas the City Council of the City of Scottsdale, did order the following works to be done, to wit: Bid No. (bid number).

WHEREAS, _____, the Principal herein in answer to the Notice Inviting Bids issued by the City of Scottsdale, put in its bid for the making of said improvements.

NOW THEREFORE, if the Obligee accepts the proposal of the Principal and the Principal enters into a contract with the Obligee in accordance with the terms of the bid and gives the Bonds and Certificates of Insurance as specified in the Standard Specifications with good and sufficient surety for the faithful performance of the contract and for the prompt payment of labor and materials furnished in the prosecution of the contract, or in the event of the failure of the Principal to enter into the contract and give the Bonds and Certificates of Insurance, if the Principal pays to the Obligee the difference not to exceed the penalty of the Bond between the amount specified in the proposal and such larger amount for which the Obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise it remains in full force and effect provided, however, that this Bond is executed pursuant to the provisions of Section 34-201, Arizona Revised Statutes, and all liabilities on this Bond shall be determined in accordance with the provisions of the section to the extent as if it were copied at length herein.

ATTEST:

_____
PRINCIPAL (SEAL)

_____ BY:_____
ATTORNEY IN FACT

_____
SURETY (SEAL)

_____ _____
AGENCY OF RECORD AGENCY ADDRESS

INVITATION FOR BID # 10PB002
CROSSCUT CANAL MULTI-USE PATH PHASE II
BIDDER'S LIST REQUIREMENTS

Bidders shall submit a list of the names of all subcontractors, Service Providers, Manufacturers and Suppliers submitting bids, proposals or quotes for this project on the "**CITY OF SCOTTSDALE FEDERAL-AID CONTRACTS**". All bidders must submit the required form, whether or not the bid is the low bid.

Bidders must submit this form with all requested information with the bid. The City will submit the form to the ADOT Civil Rights Office no later than 4:00 p.m. on the fifth working day after bids are opened.

FAILURE TO SUBMIT THE REQUIRED INFORMATION BY THE STATED TIME AND IN THE MANNER HEREIN SPECIFIED SHALL BE CAUSE FOR THR BIDDER TO BE DEEMED INELIGIBLE FOR AWARD OF THE CONTRACT.

The form must be complete and must include all the names and contact information for all subcontractors, service providers, manufactures and suppliers that submitted bids, proposals or quotes on this project regardless of the bidder's intentions to use the sub bid. Information on second tier bids is not required.

Title 49 of the Code of Federal Regulations, Part 26.11, required ADOT to create and maintain a bidders list. The purpose of this list is to develop the list of the DBE and non- DBE firms seeking to work on Federal-aid highway construction contracts. This information is then used to set ADOT's overall DBE goal. The regulations require the following information to be collected: the firm's name, the firm's address; the firm's status as a DBE or non-DBE; the age of the firm; and, the annual gross receipts of the firm.

The ADOT Civil Rights Office will contact listed firms to obtain information from them that will be used in the agency's annual DBE goal setting process. This information will be maintained as confidential to the extent allowed by federal and state law.

LIST OF SUBCONTRACTORS, SUPPLIERS SERVICE PROVIDERS AND MANUFACTURES BIDDING ON CITY OF SCOTTSDALE FEDERAL AID CONTRACTS

BID NUMBER 10PB002 **PROJECT NUMBER** T0703

This completed form must be submitted with the Bid Form. The City of Scottsdale must submit this form to the ADOT Civil Rights Office by 4:00 p.m. on the fifth working day after the opening of bids. You may make copies of this form. List all companies that bid with your firm on this contract.

FAILURE TO SUBMIT THE REQUIRED INFORMATION BY THE STATED TIME AND IN THE MANNER HEREIN SPECIFIED SHALL BE CAUSE FOR THE BIDDER TO BE DEEMED NONRESPONSIVE.

ADOT TRACS No. 0000 MA SCT SL602 01C
Federal Aid Project No. ARRA-SCT-0(200)A

Bidder _____

Firm Name	**Contact Information (Address or Phone no.)**

INVITATION FOR BID # 10PB002
CROSSCUT CANAL MULTI-USE PATH PHASE II
BIDDER'S SELF-CERTIFICATION FORM GENERAL TERMS AND CONDITIONS

All firms bidding as prime contractors, subcontractors, or suppliers on ADOT projects must be registered. Please complete this form and return it to the City of Scottsdale. The City will forward the completed form to:

ADOT Civil Rights Office
1739 W. Jackson 127P
Phoenix, AZ 85007

If you have any questions regarding the purpose of the form or information, please call ADOT'S Civil Rights Office (602) 712-7761, Fax (602) 712-8429. A listing of all bidders is available upon request.

1. GENERAL INFORMATION:

Name of Firm: _____

Street Address (Including City, ST, ZIP): _____

Mailing Address (Including City, ST, ZIP): _____

Telephone Number _____ Fax Number: _____

E-mail Address: _____

Year firm was established: _____

Check all that apply: _____

Is this firm a prime contractor? _____

Is this firm a subcontractor? _____ Identify specialty: _____

Is this firm a service provider? _____ Identify service: _____

Is this firm a material supplier? _____ Identify: _____

Is this firm a manufacturer? _____ Identify: _____

Is this firm a certified DBE/MBE/WBE? _____

If so, by whom? _____

2. FINANCIAL INFORMATION

Firm's annual gross receipts (average of last 3 years)

_____ <$500,000
_____ $500,000 - $999,999
_____ $1,000,000 - $4,999,999
_____ $5,000,000 - $9,999,999
_____ $10,000,000 - $16,999,999
_____ >$17,000,000

Information will be maintained as confidential to the extent allowed by federal and state law.

The undersigned swears that the above information is correct. Any material misrepresentation may be grounds for terminating any contract which may be awarded and initiating action under federal and state laws concerning false statements.

_____ _____
Printed Name of Bidder Signature of Bidder

FEDERAL AID CONTRACT PROVISIONS

CERTIFICATIONS WITH REGARD TO THE PREFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS (APRIL 1969)

BID NUMBER 10PB002 **PROJECT NUMBER T0703**

The bidder, _____, proposed subcontractor _____, hereby certifies that he has_____, has not_____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that he has _____, has not_____, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

_____
(Company)

By: _____

_____
(Title)

Date:_____

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1),) and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5 (Generally only contracts or subcontracts of $10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Information concerning Standard Form 100 (EEO-1) is available from :

Joint Reporting Committee
P.O. Box 19100
Washington D.C. 20036-9100

Proposed Prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor

R7/03

NON-COLLUSION BIDDING CERTIFICATION

BID NUMBER 10PB002 **PROJECT NUMBER** T0703

PROJECT NAME: CROSSCUT CANAL MULTI-USE PATH PHASE II

(STATE OF)
ss
(COUNTY OF)

I, _____ of the City of _____
in the County of _____ and the State of _____
of full age, being duly sworn according to the law of my oath depose and say that:

I am a _____ a, _____
(Name) (Title, Position, etc.)

of the firm of _____, the Bidder making the Bid for City of Scottsdale, (Insert Project Name), City Project No. (Project No.) and that I executed the said Bid with full authority so to do; that said Bidder has not, directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named Project; and that all statements contained in said Bid and in this affidavit are true and correct, and made with full knowledge that the City of Scottsdale relies upon the truth of the statements contained in said Bid and in the statements contained in this affidavit in awarding the Contract for the said Project.

The bidder certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federally appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract grant, loan, or cooperative agreement.

(2) If any funds other than Federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. Copies of Form-LLL, "Disclosure Form to Report Lobbying", are available at ADOT Contracts and Specifications Services, 1651 W. Jackson, Room 121F, Phoenix, AZ 85007.

NON-COLLUSION BIDDING CERTIFICATION - CONTINUED

BID NUMBER 10PB002 **PROJECT NUMBER** T0703

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The bidder also agrees, by submitting his or her bid or proposal, that he or she shall require that the language of this certification be included in all subcontracts and lower tier subcontracts which exceed $100,000 and that all such subcontractors and lower tier subcontractors shall certify and disclose accordingly.

The City of Scottsdale will keep the prime contractors' certifications on file as part of their original bid proposals. Each prime contractor shall keep individual certifications from all subcontractors and lower tier subcontractors on file.

Certifications shall be retained for three years following completion and acceptance of any given project.

Disclosure forms for the prime contractor shall be submitted to the Engineer at the pre-construction conference. Disclosure forms for subcontractors and lower tier subcontractors shall be submitted to the Engineer by the prime contractor along with the submittal of each subcontract or lower tier subcontract when said subcontracts exceed $100,000.00. During the performance of the contract the prime contractor and any affected subcontractors shall file revised disclosure forms at the end of each calendar year quarter in which events occur that materially affect the accuracy of any previously filed disclosure form. Disclosure forms will be submitted by the Engineer to the Federal Highway Administration for further processing.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such Contract I upon an agreement of understanding, for a commission, percentage, brokerage or contingent fee, except bonafide employees or bonafide established commercial or selling agencies maintained by:

_____
(Signature of Bidder)

_____
(Printed or Typed Name of Bidder)

Sworn to before me this _____ day of _____ 20 ____ in the County of
_____, State of _____

_____
(Notary Public)
21734 (update 12/3/02)

BUY AMERICAN CERTIFICATION

BID NUMBER 10PB002 **PROJECT NUMBER** T0703

The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in federal-funded projects are produced in the United States, unless a waiver has been granted by the Federal Highway Administration (FHWA) or the product is subject to a general waiver.

A bidder or offeror must submit to the City of Scottsdale the appropriate Buy America Certification (below) with all bids on federally-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as non-responsive. This requirement does not apply to lower tier subcontractors.

Certification requirement for procurement of steel, iron, or manufactured products.

Certificate of Compliance with 49 U.S.C. 5323(j)(1)
The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.

Date _____
Signature_____
Company Name_____
Title _____

OR:

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)
The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1), but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(B) or (j)(2)(D) and the regulations in 49 CFR 661.7.

Date _____
Signature_____
Company Name_____
Title _____

Company Name _____

106DMAT-1/1

NOTICE OF AWARD

BID NUMBER: 10PB002 PROJECT NUMBER: T0703

PROJECT NAME: CROSSCUT CANAL MULTI-USE PATH PHASE II

TO

You are hereby notified that you were awarded the Contract by the Scottsdale City Council on _____ in the amount of $_____. You are required by the Terms and Conditions of this bid to execute the Construction Contract, furnish Contractor's Performance and Payment Bonds, submit the appropriate Certificate(s) of Insurance, and complete and return the I.R.S. W-9 form, and the Transaction Privilege (Sales) Tax License numbers issued by the State of Arizona and City of Scottsdale, within ten (10) days from the date of this Notice.

If you fail to execute the Construction Contract, furnish the required bonds, submit Insurance Certification(s), and complete and return the I.R.S. W-9 form, and the Transaction Privilege (Sales) Tax License numbers issued by the State of Arizona and City of Scottsdale, within ten (10) days from the date of this Notice, the City will consider this as a forfeiture of your Bid Bond. The City will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of the NOTICE OF AWARD to the City of Scottsdale.

IN ORDER TO CONSTRUCT THIS PROJECT, THE GENERAL CONTRACTOR SHALL HAVE IN PLACE WITHIN SIXTY (60) CALENDAR DAYS OF BIDDING, THE APPROPRIATE ARIZONA CONTRACTOR'S LICENSE CLASSIFICATIONS(S).

BY: _____

ACCEPTANCE OF NOTICE:

Receipt of the above NOTICE OF AWARD is hereby acknowledged.

BY: _____

Subscribed and sworn to before me this _____ day of _____ 200__.

_____ _____

NOTARY PUBLIC My Commission Expires

CITY OF SCOTTSDALE
CONSTRUCTION CONTRACT

BID NUMBER: 10PB002 PROJECT NUMBER: T0703

PROJECT NAME: CROSSCUT CANAL MULTI-USE PATH PHASE II

THIS CONTRACT, made and entered into this _____ day of _____, 200__, by and between _____, herein after designated "Contractor" and the City of Scottsdale, County of Maricopa, and State of Arizona, a municipal corporation, organized and existing under and by virtue of the laws of the State of Arizona, hereinafter designated "OWNER".

WITNESSETH: That the said Contractor, for and in consideration of the sum to be paid him by the said Owner, in the manner and at the time hereinafter provided, and of the other covenants and agreements herein contained and under the penalties expressed in the bonds provided, hereby agrees, for himself, his heirs, executors, administrators, successors, and assigns as follows:

ARTICLE 1 - SCOPE OF WORK: The Contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities required to perform all work for Bid No. (bid number), Project No. (project number) and to completely and totally construct the same and install the material therein for the Owner, in a good workmanlike and substantial manner to the satisfaction of the Owner and under the direction and supervision of the Owner, or other properly authorized agents and strictly pursuant to and in conformity with the Plans and Specifications prepared for the Owner, and with such modifications of the same and other documents that may be made by the Owner or other properly authorized agents, as provided herein.

The Contractor agrees that this Contract, as awarded, is for Bid No. _____ Project No. _____, (NAME) in the amount of $_____, and understands that payment for the total work will be made on the basis of the indicated amount(s), as bid in the Bid Form.

ARTICLE 2 - CONTRACT DOCUMENTS: Bid No. _____, Plans, Standard Specifications and Details, Project Manuals, General and Special Provisions, Addenda, if any, and Contractor's Bid, as accepted by the Mayor and Council. Performance Bond, Payment Bond, Certificates of Insurance, and Change Orders, if any, are by this reference made a part of this Contract to the same extent as if set forth herein in full.

ARTICLE 3 - TIME OF COMPLETION: The Contractor further covenants and agrees at his own proper cost and expense, to do all work as aforesaid for the construction of said improvements and to completely construct the same and install the material therein, as called for by this agreement free and clear of all claims, liens, and charges whatsoever, in the manner and under the conditions specified within the time, or times, stated in the bid form.

ARTICLE 4 - PAYMENTS: For and in consideration of the faithful performance of the work herein embraced as set forth in the Contract Documents, which are a part hereof and in accordance with the directions of the Owner, through its Contract Administrator or other properly authorized agent and to Owner's satisfaction, the Owner agrees to pay the said Contractor the amount earned, computed from actual quantities of work performed and accepted or materials furnished at the unit bid and/or lump sum price on the Bid Form made a part hereof. Any progress payments made shall be in accordance with the General Terms and Conditions as set forth in the Contract Documents which are a part hereof and final payment shall be made within forty (40) days after final inspection and acceptance of the work.

ARTICLE 5 - CONTRACT ADMINISTRATOR: shall be (administrator) or designee.

ARTICLE 6 – CHANGES TO THE CONTRACT PRICE AND TIME

6.1 Delays to the Work

6.1.1 Delays may be compensable, concurrent, excusable or non-excusable as defined in Article 1.

6.1.2 If the Contractor is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own or those for whom the Contractor is responsible, the Contract Times for performance may be reasonably extended by Change Order.

6.1.3 The Contractor must request an increase in the Contract Time by written notice including an estimate of the probable effect of delay on progress of the Work. In the case of a continuing delay only one request is necessary.

6.1.4 Written notice must be received within fourteen (14) days of the commencement of the cause of the delay.

6.1.4.1 If written notice is received more than fourteen (14) days after commencement of the cause of the delay, the period of delay will be deemed to commence fourteen (14) days prior to the giving of such notice.

6.1.5 By way of example and subject to Force Majeure as described below, events that may entitle the Contractor to an extension of the Contract Time include acts or omissions of the City or anyone under the City’s control (including separate contractors), changes in the Work, Differing Site Conditions, Hazardous Conditions, unusual delay in transportation, and adverse weather conditions not reasonably anticipated.

6.1.6 If adverse weather conditions are the basis for a request for additional Contract Time, such requests must be documented by data substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the scheduled construction.

6.1.7 It is understood, however, that permitting the Contractor to proceed to complete any Work, or any part of the Work, after the date to which the time of completion may have been extended, will in no way act as a waiver on the part of the City of any of its legal rights herein.

6.1.8 In the event that the Contractor sustains damages as a result of expenses incurred by a delay for which the City is responsible, the Contractor and the City will negotiate to determine the amount of such damages. This provision is made pursuant to Arizona Revised Statutes Section 34-607(E) and is effective only if the delay caused by the City is unreasonable under the circumstances and was not within the contemplation of the parties. This provision will not be construed to void any provision of this contract pertaining to notice of delays, arbitration or other settlement provisions applicable to disputes, or provisions relating to liquidated damages.

6.1.9 In addition to the Contractor's right to a time extension for those events set forth in this Section 6.1, the Contractor may also be entitled to an appropriate adjustment of the Contract Price provided, however, that the Contract Price shall not be adjusted for those events set forth in this Article that are beyond the control of both the Contractor and the City, including the events of war, acts of terrorism, floods, labor disputes (but not including the Contractor's own work force and those of its subcontractors), earthquakes, epidemics, adverse weather conditions not reasonably anticipated, and other acts of God.

6.2 Differing Site Conditions

6.2.1 If the Contractor encounters a Differing Site Condition(s), the Contractor may be entitled to an adjustment in the Contract Price and/or Contract Time(s) to the extent the Contractor's cost and/or time of performance are the direct result of a Differing Site Condition(s)

6.2.2 Upon encountering a Differing Site Condition, the Contractor must provide prompt written notice to the City of such condition, which notice must not be later than seven (7) days after the condition has been encountered. The Contractor will, to the extent reasonably possible, provide such notice before the Differing Site Condition has been substantially disturbed or altered.

6.2.3 In order for the Contractor to obtain any additional compensation and/or time extensions for differing site conditions, the Contractor must demonstrate that it encountered a material difference at the site, as defined in Article 1, that required it to expend additional cost and/or time. The Contractor shall also establish that it actually and reasonably relied upon the representations found in the Contract Documents concerning the site conditions.

6.3 Force Majeure

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, acts of terrorism, epidemics, governmental regulations imposed after the fact, fire, communication line failures, or power failures.

IN WITNESS WHEREOF, three (3) identical counterparts of this contract each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties herein above named, on the date and year first above written.

CITY OF SCOTTSDALE

By: _____
W.J. "Jim" Lane, Mayor

ATTEST:

BY:_____
Carolyn Jagger, City Clerk

CONTRACTOR: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

By: _____

REVIEWED:

_____
Pauline Hecker
Risk Management Director

_____
Bill Yazel
Purchasing Director

_____
Christopher Perkins
Contract Administrator

STATUTORY PERFORMANCE BOND
PURSUANT TO TITLE 34, CHAPTER 2, ARTICLE 2,
OF THE ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____ (hereinafter called the Principal) as Principal, and _____, a corporation organized and existing under the laws of the State of _____ with its principal office in the City of _____, (hereinafter called the Surety), as Surety, are held and firmly bound unto the City of Scottsdale, County of Maricopa, State of Arizona in the amount of _____Dollars ($_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the City of Scottsdale, dated the _____ day of _____, 200__ for Bid No. (bid number), Project No. (project number), (project name), which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW THEREFORE, the condition of this obligation is such, that if the Principal faithfully performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of the contract during the original term of the contract and any extension of the contract, with or without notice to the surety, and during the life of any guaranty required under the contract, and also performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of all duly authorized modifications of the contract that may hereafter be made, notice of which modifications to the surety being hereby waived, the above obligation is void. Otherwise it remains in full force and effect.

PROVIDED HOWEVER, that this Bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this Bond shall be determined in accordance with the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, to the extent as if it were copied at length in this agreement.
The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by a Judge of the Court.

WITNESS our hands the _____ day of _____, 200__

_____
PRINCIPAL

_____
BY:

_____
SURETY (SEAL)

_____
AGENCY OF RECORD

_____
AGENCY ADDRESS

STATUTORY PAYMENT BOND

PURSUANT TO TITLE 34, CHAPTER 2, ARTICLE 2,

OF THE ARIZONA REVISED STATUTES

(Penalty of this bond must be 100% of the Contract Amount)

KNOW ALL MEN BY THESE PRESENTS:

That, _____ (hereinafter called the Principal), as Principal, and _____ a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____ (hereinafter called the Surety), as Surety, are held and firmly bound unto the City of Scottsdale, County of Maricopa, State of Arizona, in the amount of _____ Dollars ($_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the City of Scottsdale dated the _____ day of _____, 200__ for Bid No. (bid number), Project No. (project number), (project name), which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, the condition of this obligation is such, that if the Principal promptly pays all monies due to all persons supplying labor or materials to the Principal or the Principal's subcontractors in the prosecution of the work provided for in the contract, this obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, of the Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, to the same extent as if they were copied at length in this agreement.

The prevailing party in a suit on this bond shall be recover as a part of the judgment reasonable attorney fees that may be fixed by a Judge of the Court.

WITNESS our hands the _____ day of _____, 200__

_____

PRINCIPAL

_____

BY:

_____

SURETY (SEAL)

_____

AGENCY OF RECORD

_____

AGENCY ADDRESS

***ACORD*tm**

DATE (MM/DD/YY)

CERTIFICATE OF LIABILITY INSURANCE

PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
	COMPANIES AFFORDING COVERAGE
	COMPANY **A**
INSURED	COMPANY **B**
	COMPANY **C**
	COMPANY **D**

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT. TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Co 1 tr	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (mm/dd/yy)	POLICY EXPIRATION DATE (mm/dd/yy)	LIMITS	
	GENERAL LIABILITY				GENERAL AGGREGATE	$
	☐ COMMERCIAL GENERAL LIABILITY				PRODUCTS COMP/OP AGG	$
	☐ ☐ CLAIMS MADE ☐ OCCUR				PERSONAL & ADV INJURY	$
	☐ OWNERS & CONTRACTORS PROT				EACH OCCURRENCE	$
	☐				FIRE DAMAGE (Any one fire)	$
	☐				MED EXP (Any one person)	$
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$
	☐ ANY AUTO					
	☐ ALL OWNED AUTOS				BODILY INJURY (Per person))	$
	☐ SCHEDULED AUTOS					
	☐ HIRED AUTOS				BODILY INJURY (Per accident)	$
	☐ NON-OWNED AUTOS					
	☐				PROPERTY DAMAGE	$
	GARAGE LIABILITY				AUTO ONLY EA ACCIDENT	$
	☐ ANY AUTO				OTHER THAN AUTO ONLY:	$
	☐				EACH ACCIDENT	$
	☐				AGGREGATE	$
	EXCESS LIABILITY				EACH OCCURRENCE	$
	☐ UMBRELLA FORM				AGGREGATE	$
	☐ OTHER THAN UMBRELLA FORM					$
	WORKERS COMPENSATION AND EMPLOYER'S LIABILITY				☐ WC STATU-TORY LIMITS ☐ OTHER	
	THE PROPRIETOR/ ☐ INCL				EL EACH ACCIDENT	$
	PARTNERS/EXECUTIVE ☐ EXCL				EL DISEASE . POLICY LIMIT	$
	OFFICERS ARE:				EL DISEASE . EA EMPLOYEE	$
	Other:					

Description of Operations/Locations/Vehicles/Special Items:

City of Scottsdale, its representatives, agents and employees, is an Additional Insured under Commercial General Liability and Auto Liability. All cited insurance shall be primary coverage and waive rights of recovery (subrogation), including Workers Compensation, against City of Scottsdale. No policy shall be canceled or materially changed without 30 days advance written notice. Certificate not valid unless signed by authorized representative of insurance company. **APPLICABLE CONTRACT NUMBER**: (bid number).

CERTIFICATE HOLDER	CANCELLATION
	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ~~ENDEAVOR TO~~ MAIL ___ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, ~~BUT FAILURE TO MAIL SUCH NOTIVE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.~~
ACORD 25-S (1/95)	AUTHORIZED REPRESENTATIVE

CITY OF SCOTTSDALE
CERTIFICATE OF INSURANCE

City Department:	Project Title:	Contract #:

Companies Affording Coverage	Current State of Arizona License		Current A.M. Best Rating
	Yes	No	
Producer:			
Insured:			
A._____	_____	_____	_____
B._____	_____	_____	_____
C._____	_____	_____	_____
D._____	_____	_____	_____
E._____	_____	_____	_____

This is to certify that the insurance policies listed below have been issued to the insured named above for the policy period indicated.

Co Ltr	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (mm/dd/yy)	POLICY EXPIRATION DATE (mm/dd/yy)	LIMITS	(,000)
	General Liability □ Commercial General Liability □ Occurrence □ Claims Made □ Owner's & Contractor's Prot. □ Per Project Product/Completed Operations				General Aggregate Products-Comp/Op Agg. Personal & Adv. Injury Each Occurrence Fire Damage (any one fire) Med. Exp. (any one person)	$_____ $_____ $_____ $_____ $_____ $_____
	Automobile Liability □ Any Auto □ All Owned Autos □ Scheduled Autos □ Hired Autos □ Non-Owned Autos □ Garage Liability				Combined Single Limit Bodily Injury (per person) Bodily Injury (per accident) Property Damage	 $_____ $_____ $_____
	Professional Liability □ Type _____ □ Claims Made □ Occurrence				Each Claim All Claims	$_____ $_____
	Excess Liability □ Umbrella Form □ Other than umbrella form □ Claims Made □ Occurrence				Each Occurrence Aggregate	$_____ $_____
	Workers Compensation Employer's Liability				Statutory Limits Each Accident Disease-Policy Limit Disease-Each Employee	 $_____ $_____ $_____
	Builder's Risk					
	Other:					

Description of Operations/Locations/Vehicles/Special Items:
City of Scottsdale, its representatives, agents and employees, is an Additional Insured under Commercial General Liability and Auto Liability. All cited insurance shall be primary coverage and waive rights to recovery (subrogation), including Workers Compensation, against City of Scottsdale. No policy shall be canceled or materially changed without 30 days advance written notice. Certificate not valid unless signed by authorized representative of Insurance Company. **APPLICABLE CONTRACT NUMBER**: (bid number).

CERTIFICATE HOLDER/ADDITIONAL INSURED	Authorized Representative of the insurance company(ies)
City of Scottsdale 9191 E. San Salvador Drive Scottsdale, AZ 85258	Signature: _____ Date: _____

SUBCONTRACTOR REQUEST FORM (SRF)

BID NUMBER 10PB002 **PROJECT NUMBER** T0703

It is the City's s responsibility to insure that prime contractors employ subcontractors in accordance with various Federal and State regulations. Please provide the information and appropriate signatures requested below **at the Pre-Construction Meeting**. This will ensure compliance while decreasing the required approval time. Copies of subcontracts shall be provided to the City upon request.

BID NO. _____ **COS PROJECT NO. /TRACS NO.** _____ / _____

PRIME CONTRACTOR: _____ **PRIME CONTRACT AMOUNT $** _____

TELEPHONE NO. _____ **ESTIMATED SUBCONTRACT AMOUNT$** _____

FAX NO. _____

SUBCONTRACTOR NAME: _____ **LOWER TIER TO:** _____

ADDRESS _____ **SUBCONTRACTOR LICENSE NO.** _____

ADDRESS _____ **(If not licensed) EIN/TIN NO.** _____

CITY, STATE, ZIP _____ **DBE: Yes** _____ **No** _____

EMAIL ADDRESS _____ **Truck Owner/Operator Yes** _____ **No** _____

PHONE _____ **(If YES, attach copy of CDL and truck registration)**

SUBCONTRACTED BID ITEMS No.'s (Specify Joint Items)		**SUBCONTRACTED NON-PAY ITEMS Provide Description of Work)**
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

CERTIFICATION:

The Prime Contractor and Subcontractor certifies the following:

A) The Subcontractor has received applicable Documents No. 3-10 per Special Provisions.

B) The Prime Contractor and Subcontractor will execute Documents No. 1 and 2 prior to the start of Subcontractor's work. DBE subcontracts to be submitted at Pre-Construction conference (Spec. 108.01/03)

C) Upon execution, Prime Contractor will provide the City's Contract copies of Documents No. 1 and 2 OR 6

1. Subcontract Agreement containing the above Bid Items of Work
2. Certification, Contracts or Subcontracts subject to EEO Clause August 1, 2000 (Non FA projects only)
3. Executive Order 99-4 Amending 75-5 (Non FA projects only)
4. Standard Federal EEO, Executive Order 11246 Revised 04-15-81 (Federal Aid and Non FA projects)
5. Affirmative Action to Insure Equal Employment Opportunity (Executive Order 11246), April 15, 1981 (Fed Aid & NFA)
6. Certification, Contracts or Subcontracts subject to EEO clause April, 1969 (Federal Aid projects only)
7. FHWA 1273-(Rev. 3-94) (Federal Aid projects only)
8. EEO Compliance Reports, August 1, 2005 (Federal Aid Project s only)
9. Certification of Nonsegregated Facilities, September 29, 1975 (Federal Aid Projects Only)
10. Wage Determination Decision # _____ Mod # _____ (As per special provisions for above referenced project.)

_____	_____	_____
Authorized Prime Contractor Signature/Date	Authorized Prime Contractor Signature/Date	Authorized Prime Contractor Signature/Date
_____	_____	_____
Title	Title	Title

FOR CITY USE ONLY

Total Subcontracted To Date: $_____ Percentage Subcontracted To Date: _____%

Subcontract in Project File?: YES _____ NO _____

_____ _____

CPM Project Manager Date

NOTICE TO PROCEED

BID NUMBER: 10PB002 PROJECT NUMBER: T0703

TO:

PROJECT NAME: CROSSCUT CANAL MULTI-USE PATH PHASE II

In accordance with the Contract dated _____, 200__, you are hereby notified to commence work on _____, 200__ and you are to complete the WORK within (contract time) consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, 200__. Official time extensions thereto shall be considered and authorized in strict conformance with General Conditions or M.A.G. Standard Specifications.

CITY OF SCOTTSDALE

BY: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED
is hereby acknowledged.

BY: _____

TITLE: _____

Subscribed and sworn to before me this _____ day of _____ 200__

_____ _____
NOTARY PUBLIC My Commission Expires

AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS

BID NUMBER: 10PB002 PROJECT NUMBER: T0703

PROJECT NAME: CROSSCUT CANAL MULTI-USE PATH PHASE II

To the City of Scottsdale, Arizona

This is to certify that all lawful claims for materials, rental of equipment and labor used in connection with the construction of the above project, whether by subcontractor or claimant in person, have been duly discharged.

The undersigned, for the total consideration of $_____, including the final pay estimate of $_____, as full and complete payment under the terms of the contract, hereby waives and relinquishes any and all further claims or right of lien under, in connection with, or as a result of the above described project. The undersigned further agrees to defend, indemnify and hold harmless the City of Scottsdale against any and all liens, claims of liens, suits, action, damages, charges and expenses whatsoever, which said City may suffer arising out of the failure of the undersigned to pay for all labor performances and materials furnished for the performance of said project construction items and/or services.

Signed and dated this _____ day of _____ 200__.

_____
CONTRACTOR

_____
BY:

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

The foregoing instrument was subscribed and sworn to before me this ___ day of _____, 200__.

_____ _____
NOTARY PUBLIC My Commission Expires

CONTRACTOR'S NOTICE OF
FINAL PAY ESTIMATE

BID NUMBER: 10PB002 PROJECT NUMBER: T0703

PROJECT NAME: CROSSCUT CANAL MULTI-USE PATH PHASE II

To the City of Scottsdale

This notice confirms acceptance by Contractor of final contract payment in the amount of $_____ which represents the balance due for subject project. This amount includes payment for all retentions held and adjusted final quantities.

TOTAL CONTRACT AMOUNT, including final pay estimate: $_____.

Signed and dated this _____ day of _____ 200__.

BY: _____

Title: _____

For: _____

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

The foregoing instrument was subscribed and sworn to before me this ____ day of _____, 200__.

_____ _____
NOTARY PUBLIC My Commission Expires

CONTRACTOR'S NOTICE OF
FINAL ACCEPTANCE

BID NUMBER: 10PB002 PROJECT NUMBER: T0703

PROJECT NAME: CROSSCUT CANAL MULTI-USE PATH PHASE II

CONTRACTOR NAME:

FINAL CONTRACT AMOUNT:

Construction on the above project was completed on _____ and on _____ a final inspection was made of the subject improvements by this office. The work substantially conforms to the approved plans and specifications. We, therefore, accept those portions within the public right-of-way into our system for maintenance.

Approved By:

_____
Contract Administrator

_____
Construction Coordinator

cc: City Clerk
Accounting Director
Risk Management Director
Tax Audit Manager
Purchasing Director
Other:

RETAINAGE ESCROW AGREEMENT
AND ASSIGNMENT FOR CONSTRUCTION CONTRACTS

This Escrow Agreement and Assignment is made and entered into on _____, 20__, by and among the City of Scottsdale (hereinafter referred to as "City"), _____ (hereinafter referred to as "Contractor") and Wells Fargo Bank Arizona, National Association (hereinafter referred to as "Bank" or "Escrow Agent").

Whereas, City and Bank, having entered into Banking Services Agreement No. 98919; and

Whereas, City and Contractor have entered into a contract for construction as follows: _____

_____

____(hereinafter referred to as "Contract"); and

Whereas, said Contract provides that City shall reserve as retainage an amount not to exceed ten percent (10%) of progress payments due on the Contract pursuant to the provisions of Arizona Revised Statutes, Section 34-221; and

Whereas, A.R.S. § 34-221(A)(5) provides that a contractor may assign to City certain certificates of deposit or securities (collectively "securities") in lieu of the ten percent retainage; and

Whereas, Contractor desires to avail itself to said assignment provisions; and

Whereas, City, Contractor, and Bank mutually desire to enter into this Escrow Agreement and Assignment (hereinafter referred to as "Agreement") in order to implement the statutory provisions;

Now, Therefore, in consideration of the foregoing and the mutual covenants and promises contained herein, the parties agree as follows:

1. **Appointment and Acceptance of Escrow Agent**. The City designates the Bank as its Escrow Agent and custodian to care for and service any securities or funds assigned by Contractor to City pursuant to A.R.S. § 34-221(A)(5). The Bank agrees to accept appointment as Escrow Agent.

2. **Fees**. Bank is entitled to compensation in accordance with "Schedule A" attached hereto and incorporated herein by reference and which shall be payable by Contractor.

3. **Receipt of Escrow Funds**. Whenever Contractor elects to substitute acceptable securities for the entire amount to be retained by City as a guarantee for complete performance of the Contract, Contractor shall provide written notification to City of such election. Upon such notification, Contractor agrees to transfer funds in that amount to the Bank, at which time the Bank agrees to immediately purchase one or more of the type of securities set forth in paragraph 4 of this Agreement in the name of City in accordance with investment directions received from Contractor. All such funds transferred by Contractor to the Bank upon election of Contractor shall, from the moment of such transfer, be subject to all terms and conditions contained in this Agreement.

Receipt of Escrow Funds - Cont'd

Contractor shall have the right to direct the Bank to change the investment of funds from a particular security to another security as long as all securities comply with the requirements of paragraph 4 of this Agreement, and so long as Contractor pays all handling and/or transfer fees related to investment changes. All such securities shall be purchased in the name of City, shall be held by Bank in accordance with this Agreement, and shall be deemed to be in the possession of City for its benefit in lieu of retainages held by City under the Contract.

In no event shall City accept a time certificate of deposit of a bank or shares of a savings and loan institution in lieu of the retainage unless accompanied by a signed and acknowledged waiver of the bank or savings and loan institution of any right or power to setoff against either the City or Contractor in relationship to the certificates or shares assigned. Investments in Money Market Funds that invest only in securities set forth in paragraph 4 of this Agreement shall be considered an acceptable substitute for the actual securities. Such Money Market Funds may be Money Market Funds for which the Trustee or its Affiliates provide management advisory services.

4. **Investment of Escrow Funds**. For purposes of this Agreement only, the term "security" shall be of a character described in A.R.S. § 34-221(A)(5) and approved by the state treasurer, including:

   (a) Time certificates of deposit of banks licensed by the State of Arizona;

   (b) Securities of or guaranteed by the United States of America;

   (c) Securities of the State of Arizona or of counties, municipalities and school districts within Arizona;

   (d) Shares of savings and loan institutions authorized to transact business in Arizona.

5. **Interest**. All interest and income paid on any bonds or securities assigned and deposited pursuant to this Agreement shall be collected on a regular basis by the Bank and said amounts shall be the property of and be paid, when and as accrued and collected, to Contractor, less reasonable custodial care or service costs charged for such service.

6. **Duty of the Escrow Agent**. The duties of Bank include its obligations to:

   (a) Receive the Escrow Funds and invest the same pursuant to Section 4, pending written authorization from the City to deliver all interest and income of said securities to Contractor;
   (b) Provide immediate notification to the City of each Contractor deposit of funds into the escrow account and each purchase of securities by Bank;
   (c) Deliver to City all or any portion of said securities, upon written request of City, provided that, upon City's written instruction, Bank shall first reconvert said securities into money and deliver such money together with any other moneys held pursuant to this Agreement to the City by depositing same to the City's depository account with Bank;

Duty of the Escrow Agent – Cont'd

(d) Deliver to Contractor all sums remaining in the escrow account upon City's written notification to Bank that Contractor has satisfactorily completed work pursuant to the construction Contract.

7. **Rights**. The City and Contractor agree that this Agreement shall in no way infringe on or restrict the rights of City or Contractor under the construction Contract.

8. **Assignment**. Contractor hereby assigns to City any and all rights, title and interest, without reservation whatsoever, which Contractor has or might have in the securities which are now or may hereinafter be deposited with the Bank pursuant to this Agreement.

9. **Reporting**. The Bank shall report at least monthly to Contractor and City on the market value of the securities deposited with the Bank pursuant to this Agreement. If at any time the market value of the securities falls below the amount of retained funds substituted by bonds and securities, Contractor shall, in the name of the City, deposit with the Bank money or securities complying with paragraph 4 of this Agreement in an amount sufficient to re-establish a total deposit of securities equal in value to the initial amount substituted. The Bank shall not be responsible for monitoring the market value of the securities except on a month-end basis.

10. **Indemnification**. Contractor shall indemnify and hold harmless the Escrow Agent from and against, any and all loss, liability, cost, damage and expense, including, without limitation, reasonable counsel fees, which the Escrow Agent may suffer or incur by reason of any action, claim or proceeding brought against the Escrow Agent arising out of or relating in any way to this Agreement or any transaction to which this Agreement relates unless such action, claim or proceeding is the result of negligence, gross negligence, or the willful misconduct of the Escrow Agent. The Escrow Agent may conclusively rely upon and shall be protected in acting upon any statement, certificate, notice, request, consent, order or other document believed by it to be genuine and to have been signed or presented by a duly authorized party or parties. The Escrow Agent shall have no duty or liability to verify any such statement, certificate, notice, request, consent, order or other document.

11. **Notices**. All notices, requests, demands, and other communications under this Agreement shall be in writing and shall be deemed to have been duly given (a) on the date of service if served personally on the party to whom notice is to be given, (b) on the day of transmission if sent by facsimile transmission to the facsimile number given below, and telephonic confirmation of receipt is obtained promptly after completion of transmission, (c) on the day after delivery to Federal Express or similar overnight courier or the Express Mail service maintained by the United States Postal Service, or (d) on the fifth day after mailing, if mailed to the party to whom notice is to be given, by first class mail, registered or certified, postage prepaid, and properly addressed, return receipt requested, to the party as follows:

Notices – Cont'd

If to City:

_____
_____
_____

If to Contractor:

_____
_____
_____

If to Escrow Agent:

Wells Fargo Bank Arizona, N.A.
Attn: Tim Coker
100 West Washington, MAC: S4101-080
Phoenix, AZ 85003
Phone # 602-378-2340
Fax #602-378-2333

Any party may change its address for purposes of this paragraph by giving the other parties written notice of the new address in the manner set forth above.

12. **Successors and Assigns**. Except as otherwise provided in this Agreement, no party hereto shall assign this Agreement or any rights or obligations hereunder, including use of funds or securities as collateral, without the prior written consent of the other parties hereto, and any such attempted assignment without such prior written consent shall be void and of no force and effect. This Agreement shall inure to the benefit of and shall be binding upon the successors and permitted assigns of the parties hereto.

13. **Governing Law: Jurisdiction**. This Agreement shall be construed, performed, and enforced in accordance with, and governed by, the internal laws of the State of Arizona, without giving effect to the principles of conflict of laws thereof.

14. **Severability**. In the event that any part of this Agreement is declared by any court or other judicial or administrative body to be null, void, or unenforceable, all remaining provisions of this Agreement shall remain in full force and effect.

15. **Amendments: Waivers**. This Agreement may be amended or modified, and any of the terms, covenants, representations, warranties, or conditions hereof may be waived, only by a written instrument executed by the parties hereto, or in the case of a waiver, by the party waiving compliance. Any waiver by any party of any condition, or of the breach of any provision, term, covenant, representation, or warranty contained in this Agreement, in any one or more instances, shall neither be deemed nor construed as a further or continuing waiver of such condition or the breach of any other provision, term, covenant, representation, or warranty of this Agreement.

16. **Entire Agreement**. This Agreement contains the entire understanding among the parties hereto with respect to the escrow contemplated hereby and supersedes and replaces all prior and contemporaneous agreements and understandings, oral or written, with regard to such escrow.

17. **Section Headings**. The section headings in this Agreement are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.

18. **Counterparts**. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute the same instrument.

19. **Time of Essence**. Time is of the essence of this Agreement.

20. **Resignation**. Escrow Agent may resign upon thirty (30) days advance written notice to the City and Contractor. If a successor Escrow Agent is not appointed within the thirty day period following such notice, Escrow Agent may petition any court of competent jurisdiction to name a successor Escrow Agent.

21. **Other Contract Provisions**. All other provisions of the Banking Services Agreement No. 03RP009 between the City and Bank and all executed Amendments thereto, not otherwise modified by this Agreement, shall remain in full force and effect as stated therein.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year first set forth above.

City of Scottsdale
W.J. "Jim" Lane, Mayor

By:_____
Contract Administrator

Reviewed By:

_____
Bill Yazel
Purchasing Director

_____
Pauline Hecker
Risk Management Director

Approved as To Form:

_____
City Attorney

WELLS FARGO BANK ARIZONA, NATIONAL ASSOCIATION

By:_____
Its:_____

CONTRACTOR: _____

By: _____
Its: _____

SCHEDULE A

Retention Escrow Fees:

Acceptance Fee	$ 750.00
Annual Fee	$1,000.00

** USE ON ALL FEDERAL-AID PROJECTS **

APPENDIX D

FEDERAL-AID CONTRACT REQUIREMENTS

1. Required Contract Provisions All Federal-Aid Construction Contracts (Form FHWA 1273 Revised March, 1994)
2. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981
3. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246), July 1, 1978, Revised November 3, 1980 and Revised April 15, 1981
4. Equal Employment Opportunity Compliance Reports, Federal-Aid Projects, February 1, 1977, Revised July 1, 1978, Revised November 3, 1980, Revised April 15, 1981, Revised September 7, 1983, Revised October 15, 1998, Revised January 1, 2005, and Revised August 2005
5. Federal-Aid Proposal (Notices to Prospective Federal-Aid Construction Contractors), September 29, 1975
6. Wage Determination
7. Disadvantaged Business Enterprises (EPRISE, 05/30/08)
8. Mentor-Protégé Program (MENTOR, 02/23/06)
9. American Recovery And Reinvestment Act (ARRA) Requirements
10. Monthly Employment Report (Form: FHWA-1589) With sample ARRA Workforce Report Guidance (Appendix R)

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2:
Section IV, paragraphs 1, 2, 3, 4, and 7:
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. **Selection of Labor:** During the performance of this contract, the contractor shall not:

a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed

and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of the avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and

shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project:

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women:

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of $10,000 or more and that it will retain such certifications on its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. **General**:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c) the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For

the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3 and 5 are herein incorporated by reference in this contract.

2. **Classification:**

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers as defined in Section IV.4c. when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30 day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. **Payment of Fringe Benefits:**

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. **Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:**

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL. Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate)

specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:

Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed performed.

5. **Apprentices and Trainees (Programs of the U.S. DOT):**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyman shall not be greater than permitted by the terms of the particular program.

6. **Withholding:**

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. **Overtime Requirements:**

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. **Violation:**

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory). Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40

hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. **Withholding for Unpaid Wages and Liquidated Damages:**

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. **Compliance with Copeland Regulations (29 CFR 3):**

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. **Payrolls and Payroll Records:**

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee: his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially possible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less that the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reserve side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than $1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

Notice to All Personnel Engaged on Federal-Aid Highway Projects

18 U.S.C. 1020 reads as follows:

"Whoever being an officer, agent, or employee of the United States, of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used to be used, or the quantity of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than $10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et., as amended by Pub.L. 92-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. **Instructions for Certification - Primary Covered Transactions:** (Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participation in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not

required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency:

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

2. **Instructions for Certification-Lower Tier Covered Transactions:** (Applicable to all subcontracts, purchase orders and other lower tier transactions of $25,000 or more-49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department of agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participation in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment,

Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Covered Transactions

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more--49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid for or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS
EXECUTIVE ORDER 11246, July 1, 1978

(Revised November 3, 1980)

1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted:

b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority:

c. "Employer Identification Number" means the Federal Social Security Number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin):

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless or race):

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands): and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership or participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown plan. Each Contractor or Subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment ad training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has collective bargaining agreement , to refer either minorities or women shall excuse the Contractor's obligations under these specifications. Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such site or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on the job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations: by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and

Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative actions obligations (7a through p). The efforts of a contractor association, joint contractor- union, contractor community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a seperate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government Contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as al imitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(EXECUTIVE ORDER 11246)

JULY 1, 1978 (Revised November 3, 1980)

(Revised April 15, 1981)

1. The bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

	Minority	Female
Tucson and balance of Pima County	24.1	6.9
Cochise, Graham, Greenlee and Santa Cruz Counties	27.0	6.9
Phoenix and balance of Maricopa County	15.8	6.9
Apache, Coconino, Gila, Mohave, Navajo, Pinal, Yavapai and Yuma Counties	19.6	6.9

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in all areas where he has Federal or federally assisted work.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

EQUAL EMPLOYMENT OPPORTUNITY
COMPLIANCE REPORTS

(Project, Training and Annual)

Federal-Aid Projects

February 1, 1977; Revised July 1, 1978; Revised November 3, 1980;
Revised April 15, 1981; Revised September 7, 1983
Revised October 15, 1998 Revised August 1, 2005

MONTHLY REPORTS:

Monthly Highway Project Report (Revised Aug 2005):

On each contract in the amount of $10,000 or more, and on each subcontract in the amount of $10,000 or more, the contractor shall submit and each subcontractor shall submit the report on Monthly Highway Project Report.

The information required covers the first pay period in one month to the first pay period of the next month of craft employees (carpenters, ironworkers, etc.)

If the percentages shown are less than the required minimum percentages for crafts, an explanation shall be given on the report.

Negative reports shall be furnished when the contractor or subcontractor has started but has not completed contract work, and has not worked on the project during the reporting period.

All subcontractors will forward their report to the prime contractor with whom they have a contract. The Prime contractor shall collect all reports for that month and summarize date to submit one copy to the ADOT Civil Rights Office.

These reports shall be received at both offices no later than the first day of the month following the reporting period.

ANNUAL REPORT:

On each contract in the amount of $10,000 or more, and on each subcontract, not including material suppliers, in the amount of $10,000 or more, the contractor and each subcontractor shall submit the report on Form PR-1391.

The staffing figures to be reported should represent the project workforce on board in all or any part of the last payroll period preceding the end of July.

These reports shall be sent directly to the ADOT Civil Rights Office no later than September 1.

FEDERAL-AID PROPOSAL NOTICES

NOTICES TO PROSPECTIVE FEDERAL-AID CONSTRUCTION CONTRACTORS

1. CERTIFICATION OF NONSEGREGATED FACILITIES

a. A certification of Nonsegregated Facilities, as required by the May 9, 1967, Order of the Secretary of Labor (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities (is included in the proposal and must be submitted prior to the award of a Federal-aid highway construction contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause).

b. Bidders are cautioned as follows: By signing this bid, the bidder will be deemed to have signed and agreed to the provisions of the "Certification of Nonsegregated Facilities" in this proposal. This certification provides that the bidder does not maintain or provide for his employees facilities which are segregated on a basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis. The certification also provides that the bidder will not maintain such segregated facilities.

c. Bidders receiving Federal-aid highway construction contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause, will be required to provide for the forwarding of the following notice to prospective subcontractors for construction contracts and material suppliers where the subcontracts or material supply agreements exceed $10,000 and are not exempt from the provisions of the Equal Opportunity clause.

2. NOTICE TO PROSPECTIVE SUBCONTRACTORS AND MATERIAL SUPPLIERS OF REQUIREMENT FOR CERTIFICATION OF NONSEGREGATED FACILITIES

a. A Certification of Nonsegregated Facilities as required by the May 9, 1967, Order of the Secretary of Labor (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, which is included in the proposal, or attached hereto, must be submitted by each subcontractor and material supplier prior to the award of the subcontract or consummation of a material supply agreement if such subcontract or agreement exceeds $10,000 and is not exempt from the provisions of the Equal Opportunity clause.

b. Subcontractors and material suppliers are cautioned as follows: By signing the subcontract or entering into a material supply agreement, the subcontractor or material supplier will be deemed to have signed and agreed to the provisions of the "Certification of Nonsegregated Facilities" in the subcontract or material supply agreement. This certification provides that the subcontractor or material supplier does not maintain or provide for his employees facilities which are segregated on the basis of race, creed, color, or national origin, whether such facilities are segregated by directive or on a de facto basis. The certification also provides that the subcontractor or material supplier will not maintain such segregated facilities.

c. Subcontractors or material suppliers receiving subcontract awards or material supply agreements exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause will be required to provide for the forwarding of this notice to prospective subcontractors for construction contracts and materials suppliers where the subcontracts or material supply agreements exceed $10,000 and are not exempt from the provisions of the Equal Opportunity clause.

3. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

By signing this bid, the bidder will be deemed to have stipulated as follows:

a. That any facility to be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub. L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub. L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR, Part 15), is not listed on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

b. That the State highway department shall be promptly notified prior to contract award of the receipt by the bidder of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

Appendix A
Item 6. Wage Determination

Contact Dawn Fiscus, Project Management Assistant for latest Davis-Bacon Wage Determination

GENERAL DECISION: AZ20080013 08/07/2009 AZ13

Date: August 7, 2009
General Decision Number: AZ20080013 08/07/2009

State: Arizona

Construction Type: Highway

Counties: Coconino, Maricopa, Mohave, Pima, Pinal, Yavapai and Yuma Counties in Arizona.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	05/15/2009
1	05/22/2009
2	06/26/2009
3	07/03/2009
4	08/07/2009

CARP0408-005 07/01/2009

	Rates	Fringes
CARPENTER (Including Cement Form Work)	$ 23.58	7.24

ENGI0428-001 06/01/2009

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Group 1	$ 20.89	9.31
Group 2	$ 24.16	9.31
Group 3	$ 25.24	9.31
Group 4	$ 26.27	9.31

POWER EQUIPMENT OPERATORS CLASSIFICATIONS:

GROUP 1: A-frame boom truck, air compressor, Beltcrete, boring bridge and texture, brakeman, concrete mixer (skip type), conductor, conveyor, cross timing and pipe float, curing machine, dinky (under 20 tons), elevator hoist (Husky and similar), firemen, forklift, generator (all), handler, highline cableway signalman, hydrographic mulcher, joint inserter, jumbo finishing machine, Kolman belt loader, machine conveyor, multiple power concrete saw, pavement breaker, power grizzly, pressure grout machine, pump, self-propelled chip spreading machine, slurry seal machine (Moto paver driver), small self-propelled compactor (with blade-backfill, ditch operation), straw blower, tractor (wheel type), tripper, tugger (single drum), welding machine, winch truck

GROUP 2:
ALL COUNTIES INCLUDING MARICOPA: Aggregate Plant, Asphalt plant Mixer, Bee Gee, Boring Machine, Concrete Pump, Concrete Mechanical Tamping-Spreading Finishing Machine, Concrete Batch Plant, Concrete Mixer (paving & mobile), Elevating Grader (except as otherwise classified), Field Equipment Serviceman, Locomotive Engineer (including Dinky

20 tons & over), Moto-Paver, Oiler-Driver, Operating Engineer Rigger, Power Jumbo Form Setter, Road Oil Mixing Machine, Self-Propelled Compactor (with blade-grade operation), Slip Form (power driven lifting device for concrete forms), Soil Cement Road Mixing Machine, Pipe-Wrapping & Cleaning Machine (stationary or traveling), Surface Heater & Planer, Trenching Machine, Tugger (2 or more drums).

MARICOPA COUNTY ONLY: Backhoe < 1 cu yd, Motor Grader (rough), Scraper (pneumatic tired), Roller (all types asphalt), Screed, Skip Loader (all types 3<6 cu yd), Tractor (dozer, pusher-all).

GROUP 3:
ALL COUNTIES INCLUDING MARICOPA: Auto Grade Machine, Barge, Boring Machine (including Mole, Badger & similar type directional/horizontal), Crane (crawler & pneumatic 15>100 tons), Crawler type Tractor with boom attachment & slope bar, Derrick, Gradall, Heavy Duty Mechanic-Welder, Helicopter Hoist or Pilot, Highline Cableway, Mechanical Hoist, Mucking Machine, Overhead Crane, Pile Driver Engineer (portable, stationary or skid), Power Driven Ditch Lining or Ditch Trimming Machine, Remote Control Earth Moving Machine, Slip Form Paving Machine (including Gunnert, Zimmerman & similar types), Tower Crane or similar type.

MARICOPA COUNTY ONLY: Backhoe<10 cu yd, Clamshell < 10 cu yd, Concrete Pump (truck mounted with boom only), Dragline <10 cu yd, Grade Checker, Motor Grader (finish-any type power blade), Shovel < 10 cu yd.

GROUP 4: Backhoe 10 cu yd and over, Clamshell 10 cu yd and over, Crane (pneumatic or crawler 100 tons & over), Dragline 10 cu yd and over, Shovel 10 cu yd and over.

All Operators, Oilers, and Motor Crane Drivers on equipment with Booms, except concrete pumping truck booms, including Jibs, shall receive $0.01 per hour per foot over 80 ft in addition to regular rate of pay

Premium pay for performing hazardous waste removal $0.50 per hour over base rate.

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* IRON0075-004 08/01/2009

COCONINO, MARICOPA, MOHAVE, YAVAPAI & YUMA COUNTIES

	Rates	Fringes
Ironworker, Rebar		
Zone 1	$ 26.52	17.59

Zone 1: 0 to 50 miles from City Hall in Phoenix or Tucson
Zone 2: 050 to 100 miles - Add $4.00
Zone 3: 100 to 150 miles - Add $5.00
Zone 4: 150 miles & over - Add $6.50

LABO0383-002 06/01/2009

	Rates	Fringes

Laborers:

Group 1	$ 16.72	4.35
Group 2	$ 17.70	4.35
Group 3	$ 18.46	4.35
Group 4	$ 19.50	4.35
Group 5	$ 20.44	4.35

LABORERS CLASSIFICATIONS:

GROUP 1: All Counties: Chipper, Rip Rap Stoneman. Pinal County Only: General/Cleanup Laborer. Maricopa County Only: Flagger.

GROUP 2: Asphalt Laborer (Shoveling-excluding Asphalt Raker or Ironer), Bander, Cement Mason Tender, Concrete Mucker, Cutting Torch Operator, Fine Grader, Guinea Chaser, Power Type Concrete Buggy

GROUP 3: Chain Saw, Concrete Small Tools, Concrete Vibrating Machine, Cribber & Shorer (except tunnel), Hydraulic Jacks and similar tools, Operator and Tender of Pneumatic and Electric Tools (not herein separately classified), Pipe Caulker and Back-Up Man-Pipeline, Pipe Wrapper, Pneumatic Gopher, Pre-Cast Manhole Erector, Rigger and Signal Man-Pipeline

GROUP 4: Air and Water Washout Nozzleman; Bio-Filter, Pressman, Installer, Operator; Scaffold Laborer; Chuck Tender; Concrete Cutting Torch; Gunite; Hand-Guided Trencher; Jackhammer and/or Pavement Breaker; Scaler (using boson's chair or safety belt); Tamper (mechanical all types).

GROUP 5: AC Dumpman, Asbestos Abatement, Asphalt Raker II, Drill Doctor/Air Tool Repairman, Hazardous Waste Removal, Lead Abatement, Lead Pipeman, Process Piping Installer, Scaler (Driller), Pest Technician/Weed Control, Scissor Lift, Hydro Mobile Scaffold Builder.

PAIN0086-001 04/01/2009

	Rates	Fringes
PAINTER		
PAINTER (Yavapai County only), SAND BLASTER/WATER BLASTER (all Counties)	$ 19.35	4.70

ZONE PAY: More than 100 miles from Old Phoenix Courthouse $3.50 additional per hour.

SUAZ2009-001 04/20/2009

	Rates	Fringes
CEMENT MASON	$ 19.28	3.99
ELECTRICIAN	$ 22.84	6.48
IRONWORKER (Rebar)		
Pima & Pinal Counties	$ 21.73	12.07
LABORER		

Asphalt Raker	$ 15.49	3.49
Compaction Tool Operator	$ 14.59	2.91
Concrete Worker	$ 13.55	3.20
Concrete/Asphalt Saw	$ 13.95	2.58
Driller-Core, diamond, wagon, air track	$ 16.94	3.12
Dumpman Spotter	$ 14.99	3.16
Fence Builder	$ 13.28	2.99
Flagger Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 12.35	1.59
Formsetter	$ 16.09	3.97
General/Cleanup Laborer Coconino, Maricopa, Mohave, Pima, Yavapai & Yuma	$ 14.54	3.49
Grade Setter (Pipeline)	$ 17.83	5.45
Guard Rail Installer	$ 13.28	2.99
Landscape Laborer	$ 11.39	
Landscape Sprinkler Installer	$ 15.27	
Pipelayer	$ 14.81	2.96
Powderman, Hydrasonic	$ 16.39	2.58
PAINTER		
Coconino, Maricopa, Mohave, Pima, Pinal & Yuma	$ 15.57	3.92
POWER EQUIPMENT OPERATOR		
Asphalt Laydown Machine	$ 21.19	6.05
Backhoe < 1 cu yd Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 17.37	3.85
Backhoe < 10 cu yd Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.72	3.59
Clamshell < 10 cu yd Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.72	3.59
Concrete Pump (Truck Mounted with boom only) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 19.92	7.10
Crane (under 15 tons)	$ 21.35	7.36
Dragline (up to 10 cu yd) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.72	3.59
Drilling Machine (including Water Wells)	$ 20.58	5.65
Grade Checker Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 16.04	3.68
Hydrographic Seeder	$ 15.88	7.67
Mass Excavator	$ 20.97	4.28
Milling Machine/Rotomill	$ 21.42	7.45
Motor Grader (Finish-any type power blade) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 21.92	4.66
Motor Grader (Rough) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 20.07	4.13
Oiler	$ 18.15	8.24

Power Sweeper	$ 16.76	4.44
Roller (all types Asphalt) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.27	3.99
Roller (excluding asphalt)	$ 15.65	3.32
Scraper (pneumatic tired) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 17.69	3.45
Screed Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 17.54	3.72
Shovel < 10 cu yd Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.72	3.59
Skip Loader (all types <3 cu yd)	$ 18.28	5.30
Skip Loader (all types 3 < 6 cu yd) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 18.64	4.86
Skip Loader (all types 6 < 10 cu yd)	$ 20.15	4.52
Tractor (dozer, pusher - all) Coconino, Mohave, Pima, Pinal, Yavapai & Yuma	$ 17.26	2.65
TRUCK DRIVER		
2 or 3 Axle Dump or Flatrack	$ 16.27	3.30
5 Axle Dump or Flatrack	$ 13.97	2.89
6 Axle Dump or Flatrack (< 16 cu yd)	$ 17.79	6.42
Belly Dump	$ 14.67	
Oil Tanker Bootman	$ 22.03	
Self-Propelled Street Sweeper	$ 13.11	5.48
Water Truck 2500 < 3900 gallons	$ 18.14	4.55
Water Truck 3900 gallons and over	$ 15.92	3.33
Water Truck under 2500 gallons	$ 15.94	4.16

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

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In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have

been determined
to be prevailing.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries
of surveys, should be with the Wage and Hour Regional Office for the area in
which the survey was conducted because those Regional Offices have
responsibility for the Davis-Bacon survey program. If the response from this
initial contact is not satisfactory, then the process described in 2.) and
3.) should be followed.

With regard to any other matter not yet ripe for the formal process
described here, initial contact should be with the Branch of Construction
Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party
(those affected by the action) can request review and reconsideration from
the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7).
Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested
party's position and by any information (wage payment data, project
description, area practice material, etc.) that the requestor considers
relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

** USE THIS SPECIFICATION FOR FEDERAL AID PROJECTS. **

(EPRISE, 05/30/08)

DISADVANTAGED BUSINESS ENTERPRISES:

Policy:

The Arizona Department of Transportation has established a Disadvantaged Business Enterprise (DBE) program in accordance with the regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. The Arizona Department of Transportation has received Federal financial assistance from the Department of Transportation and as a condition of receiving this assistance, the Arizona Department of Transportation has signed an assurance that it will comply with 49 CFR Part 26.

It is the policy of the Arizona Department of Transportation to ensure that DBEs, as defined in Part 26, have an equal opportunity to receive and participate in DOT-assisted contracts. It is also the policy of the Department:

1. To ensure nondiscrimination in the award and administration of DOT assisted contracts;
2. To create a level playing field on which DBEs can compete fairly for DOT assisted contracts;
3. To ensure that the DBE program is narrowly tailored in accordance with applicable law;
4. To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are counted as DBEs;
5. To help remove barriers to the participation of DBEs in DOT assisted contracts; and
6. To assist in the development of firms that can compete successfully in the market place outside the DBE program.

Assurances of Non-Discrimination:

The contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, sex or national origin in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the state deems appropriate.

Race Neutral DBE Participation:

The Arizona Department of Transportation has an annual DBE goal of 10.5 percent. The Department is using a race neutral program to work towards meeting this goal. Race neutral participation occurs where (1) a firm's DBE status is not considered when awarding subcontracts, or (2) a DBE is the prime contractor.

The Department has a DBE Supportive Services Program that works with both DBEs and prime contractors to facilitate DBE participation. Ralph “Gonz” Gonzales is the manager of the program. He can be reached at (602) 712-7761 or rgonzales@azdot.gov.

Reporting:

The Department is required to collect data on DBE participation to report to FHWA. Therefore, accurate reporting is needed to track DBE participation. The contractor shall submit a report electronically on a monthly basis indicating the amounts earned by and paid to all DBEs working on the project.

The DBE compliance report shall be submitted through the Department’s web-based system, which can be accessed at https://adot.dbesystem.com.

Definitions:

(A) Disadvantaged Business Enterprise DBE: a for-profit small business concern which meets both of the following requirements:

(1) Is at least 51 percent owned by one or more socially and economically disadvantaged individuals or, in the case of any publicly owned business, at least 51 percent of the stock is owned by one or more such individuals; and,

(2) Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

(B) Socially and Economically Disadvantaged Individuals: any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is:

(1) Any individual who is found to be a socially and economically disadvantaged individual on a case-by-case basis.

(2) Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:

(i) "Black Americans," which includes persons having origins in any of the Black racial groups of Africa;

(ii) "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;

(iii) "Native Americans," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;

(iv) “Asian-Pacific Americans,” which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines,

Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong;

(v) "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;

(vi) "Women;"

(vii) Any additional groups whose members are designated as socially and economically disadvantaged by the Small Business Administration (SBA), at such time as the SBA designation becomes effective.

(C) Joint Venture: an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

Working with DBEs:

The Department works with DBEs and assists them in their efforts to participate in the highway construction program. All bidders should contact the Civil Rights Office at the address shown below for assistance in their efforts to use DBEs in the construction program of the Department:

Arizona Department of Transportation
Civil Rights Office
1135 N. 22nd Avenue (second floor), Mail Drop 154A
Phoenix, AZ 85009
Phone (602) 712-7761
FAX (602) 712-8429

Applicability:

The provisions are applicable to all bidders including DBE bidders. As a prime contractor, a DBE shall perform a significant portion of the contract work with its own work force in accordance with normal industry practices and Subsection 108.01 - Subletting of Contract of the Standard Specifications.

Certification:

Certification as a DBE shall be predicated on:

(1) The completion and execution of an application for certification as a "Disadvantaged Business Enterprise".

(2) The submission of documents pertaining to the firm(s) as stated in the application(s), including but not limited to a statement of social disadvantage and a personal financial statement.

(3) The submission of any additional information which the Department may require to determine the firm's eligibility to participate in the DBE program.

Applications for certification may be filed with the Department at any time.

Applications for certification are available at the Department's Civil Rights Office, 1135 N. 22nd Avenue (second floor), mail drop 154A, Phoenix, Arizona 85009, phone (602) 712-7761, or from the internet at www.azdbe.org.

DBE firms and firms seeking DBE certification shall cooperate fully with requests for information relevant to the certification process. Failure or refusal to provide such information is a ground for denial or removal of certification.

Arizona is a member of the AZ Unified Certification Program (AZUCP). Only DBE firms that are certified by the AZUCP are eligible for credit on ADOT projects. A list of DBE firms certified by AZUCP is available on the internet at www.azdbe.org. The list will indicate contact information and specialty for each DBE firm, and may be sorted in a variety of ways. However, ADOT does not guarantee the accuracy and/or completeness of this information, nor does ADOT represent that any licenses or registrations are appropriate for the work to be done.

The contractor bears the responsibility to determine whether the DBE possesses the proper contractor's license(s) to perform the work. If a DBE cannot complete its work due to failure to obtain or maintain its licensing, the contractor bears the responsibility to immediately replace the DBE with another DBE and notify the Department.

The Department's certification is not a representation of qualifications and/or abilities. The contractor bears all risks that the DBE may not be able to perform its work for any reason.

General:

Each contractor shall establish a program that will ensure nondiscrimination in the award and administration of contracts and subcontracts. Each contractor shall also designate a full time employee who shall be responsible for the administration of the contractor's DBE program.

Agreements between the bidder and a DBE in which the DBE promises not to provide subcontracting quotations to other bidders are prohibited.

DBE Participation:

A DBE may participate as a prime contractor, subcontractor, joint venture partner with either a prime contractor or a subcontractor, or as a vendor of materials or supplies. A DBE joint

venture partner shall be responsible for a clearly defined portion of the work to be performed, in addition to meeting the requirements for ownership and control.

The contractor may not credit second-tier subcontracts issued to DBEs by non-DBE subcontractors.

Crediting DBE Participation:

General:

Once a firm is determined to be an eligible DBE in accordance with 49 CFR Part 26, only the value of the work actually performed by the DBE can be credited toward DBE participation. Credit is given only after the DBE has been paid for the work performed.

The dollar amount of work to be accomplished by DBEs, including partial amount of a lump sum or other similar item, shall be on the basis of subcontract, purchase order, hourly rate, rate per ton, etc., as agreed to between parties.

DBE credit may be obtained only for specific work done for the project, supply of equipment specifically for physical work on the project, or supply of materials to be incorporated in the work. DBE credit will not be allowed for costs such as overhead items, capital expenditures (for example, purchase of equipment), and office items.

When a DBE performs as a partner in a joint venture, only that portion of the total dollar value of the contract which is clearly and distinctly performed by the DBE's own forces can be credited.

The contractor may not credit second-tier subcontracts issued to DBEs by non-DBE subcontractors.

A prime contractor may credit the entire amount of that portion of a construction contract that is performed by the DBE’s own forces. The cost of supplies and materials obtained by the DBE for the work of the contract can be included so long as that cost is reasonable. Leased equipment may also be included. No credit is permitted for supplies purchased or equipment leased from the prime contractor or its affiliate(s).

When a DBE subcontracts a part of the work of its contract to another firm, the value of the subcontract may be credited towards DBE participation only if the DBE’s subcontractor is itself a DBE and performs the work with its own forces. Work that a DBE subcontracts to a non-DBE firm does not count towards DBE participation.

A prime contractor may credit the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees are reasonable and not excessive as compared with fees customarily allowed for similar services.

Police Officers:

DBE credit will not be permitted for procuring DPS officers. For projects on which officers from other agencies are supplied, DBE credit will be given only for the broker fees charged, and will not include amounts paid to the officers.

Commercially Useful Function:

A prime contractor can credit expenditures to a DBE subcontractor only if the DBE performs a commercially useful function on the contract. A DBE performs a commercially useful function when it is responsible for execution of the work of a contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

A DBE will not be considered to perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, the Department will examine similar transactions, particularly those in which DBEs do not participate.

If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or if the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, the Department will presume that the DBE is not performing a commercially useful function.

When a DBE is presumed not to be performing a commercially useful function as provided above, the DBE may present evidence to rebut this presumption. Decisions on commercially useful function matters are subject to review by FHWA, but are not administratively appealable to U.S. DOT.

Trucking:

The Department will use the following factors in determining whether a DBE trucking company is performing a commercially useful function: the DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.

The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract on every day that credit is to be given for trucking.

The contractor will receive credit for the total value of transportation services provided by the DBE using trucks it owns, insures and operates, and using drivers it employs.

The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services.

The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit for the total value of the transportation services provided by non-DBE lessees not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE lessees results in credit only for the fee or commission paid to the DBE as a result of the lease agreement.

Example: DBE Firm X uses two of its own trucks on contract. It leases two trucks from DBE Firm Y and six trucks from non-DBE firm Z. DBE credit would only be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four of the six trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight trucks. With respect to the other two trucks provided by Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks Firm X receives as a result of the lease with Firm Z.

Materials and Supplies:

The Department will credit expenditures with DBEs for material and supplies as follows. If the materials or supplies are obtained from a DBE manufacturer, 100 percent of the cost of the materials or supplies is credited. A manufacturer is defined as a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract, and of the general character described by the specifications.

If the materials or supplies are purchased from a DBE regular dealer, 60 percent of the cost of the materials or supplies is credited. A DBE regular dealer is defined as a firm that owns, operates, or maintains a store or warehouse or other establishment in which the materials, supplies, articles, or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A firm may be a DBE regular dealer in such bulk items as petroleum products, steel, cement, stone or asphalt without owning, operating, or maintaining a place of business, as provided above, if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement, and not on an ad-hoc or contract-by-contract basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph and the paragraph above.

With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, the Department will credit the entire amount of the fees or commissions charged by the DBE for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required

on a job site, toward DBE goals, provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services. The cost of the materials and supplies themselves may not be counted toward the DBE goal.

DBE credit for supplying paving grade asphalt and other asphalt products will only be permitted for reasonable hauling costs, and only if the DBE is owner or lessee of the equipment and trucks. Leases for trucks must be long term (extending for a fixed time period and not related to time for contract performance) and must include all attendant responsibilities such as insurance, titling, hazardous waste requirements, and payment of drivers.

*** USE ON ALL PROJECTS WITH ARRA FUNDING. ***
Use spreadsheets available on ADOT's website, or LCPTracker, BG2Now

(ARRA, 6/16/09)

AMERICAN RECOVERY AND REINVESTMENT ACT REQUIREMENTS:

1.0 General:

The American Recovery and Reinvestment Act of 2009, hereinafter referred to as the Recovery Act (RA), provides the State Departments of Transportation with funding for highway infrastructure development. With these funds comes an increased level of reporting and oversight. The states are responsible for reporting project, jobs, and finance data for all Recovery Act projects, including those managed by their funding recipients, such as local governments, and will need to obtain certain information from their contractors, consultants, and other funding recipients in order to fulfill this obligation. Funding from the Recovery Act will expire on September 30, 2015.

The Federal Highway Administration (FHWA) requires monthly reporting of this data to ensure timely verification of the information. In addition, employment data are required on a monthly basis for the employment modeling that the FHWA is required to provide.

By submission of a proposal on an RA-funded project, the bidder agrees to be bound by the conditions and reporting requirements specified herein.

2.0 Workforce Reporting:

The contractor shall report their own workforce and shall also assure that all subcontractors report their workforce for the project as part of the weekly electronic payroll submittals required in Subsection 109.06(C) of these special provisions.

The contractor's and subcontractor's workforce shall include direct employees actively engaged in the project on the jobsite, or at the project office, including those classifications not subject to the Davis-Bacon prevailing wage rates. The workforce to be reported shall also include any engineering personnel, inspectors, owner/operators, quality control and survey personnel, sampling and testing technicians, and lab technicians performing work directly in support of the RA-funded project, but shall not include material suppliers.

The report shall include any work occurring after the execution of the contract.

Additional guidance and a sample workforce report form are included for reference as Appendix R. However, the information required for the payroll submittals will fulfill the reporting requirements specified herein.

2.01 Liquidated Damages:

If, by the 14th of the month, the contractor and its subcontractors have not provided all required workforce information with the weekly payroll submittals for the preceding month, the Department will deduct $1,000.00 for each delinquent report, whether from the prime contractor or any of its subcontractors, from the progress payment for the current month, not as a penalty but as liquidated damages. If, by the 14th of the following month, the required workforce information has still not been provided, the Department will deduct an additional $1,000.00 for each delinquent report. Such deductions will continue for each subsequent month that the contractor or its subcontractors fail to provide the required workforce information.

3.0 Reporting of DBE Commitment and DBE Subcontractor Payments:

3.01 DBE Commitment:

The contractor shall report its DBE commitment, as a percentage of its total bid amount, within five working days after the bid opening. The percent DBE commitment shall be provided by e-mail to the Department's Civil Right's office. The e-mail address is egene@azdot.gov.

3.02 DBE Subcontractor Payment Reporting:

In addition to the workforce reporting requirements specified in Section 2.0 above, the contractor shall report monthly payments made to DBE subcontractors for labor, equipment, and materials. The contractor shall provide all such required information for the current month by the 5th of the following month. DBE subcontractor definitions and reporting requirements are specified elsewhere in the special provisions. Contractors shall report the required information electronically through the Department's web-based payment tracking system.

3.03 Liquidated Damages:

If, by the 5th of the month, the contractor has failed to report its payments to DBE subcontractors for the previous month, or has failed to report the percent DBE commitment specified in Section 3.01, the Department will deduct $1,000.00 from the progress payment for the current month, not as a penalty but as liquidated damages. If, by the 5th of the following month, both the DBE payment information for the previous month and the required percent DBE commitment have still not been provided, the Department will deduct an additional $1,000.00. Such deductions will continue for each subsequent month that the contractor fails to provide both the DBE payment information for the previous month and the percent DBE commitment required in Section 3.01.

4.0 Cumulative Application of Liquidated Damages:

Liquidated damages specified herein in Sections 2.01 and 3.03 shall be applied separately, and shall be in addition to the remedial measures specified in Subsection 109.06(C) of these special provisions for deficient payroll documents, and all other retention or liquidated damages provided for elsewhere in the contract.

5.0 Notification of the Authority of the Comptroller General:

Section 902 of the Recovery Act requires that each contract using RA funds provide the U.S. Comptroller General and his representatives the authority to:

(1) examine any records of the contractor or any of its subcontractors, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the contract or subcontract; and

(2) interview any officer or employee of the contractor or any of its subcontractors, or of any State or local government agency administering the contract, regarding such transactions.

Accordingly, the Comptroller General and his representatives shall have the authority and rights as provided under Section 902 of the Recovery Act with respect to this contract, which is funded with funds made available under the Recovery Act. Section 902 further states that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

6.0 Notification of the Authority of the Inspector General:

Section 1515(a) of the Recovery Act provides authority for any representatives of the Inspector General to examine any records or interview any employee or officers working on this contract. The contractor is advised that representatives of the inspector general have the authority to examine any record and interview any employee or officer of the contractor, its subcontractors or other firms working on this contract. Section 1515(b) further provides that nothing in this section shall be interpreted to limit or restrict in any way any existing authority of an inspector general.

Monthly Employment Report (Form: FHWA-1589)

This form is a guide for the States in providing employment information on each Recovery Act project. Monthly employment information on each Recovery Act project is used by States for meeting the reporting requirements of Sections 1201 and 1512. In order for States to fulfill their reporting obligations, the States must collect and analyze certain employment data for each Recovery Act funded contract. The data requirement in Recovery Act extends beyond the number of workers at the work site and, therefore, FHWA has produced a form for guidance to the States. This data to be reported is identified below and will be used by the States in developing Form 1587, which is to be submitted to FHWA. Since States may not currently collect this data, the States should develop a new specification for each Recovery Act-funded contract in order to obtain this information from contractors and consultants. In doing so, the States should use the provided model form and require the reporting of this data from the prime contractor or consultant. The prime contractor or consultant shall complete a report for each month from the date of the Notice to Proceed until completion of the contract or September, 2012 whichever occurs sooner. This report is only required for contracts that use Recovery Act funds. States should require contractors and consultants to provide the required information for their own workforce as well as the workforce of all subcontractors that were active on their Recovery Act funded project(s) for the reporting month. It will be up to each State to determine when they obtain the necessary data from their contractors or consultants, keeping in mind that the summary form is due from the State to the FHWA Division no later than the 20th day of each month for the preceding month's data.

It is the State DOT's responsibility to report the number of jobs on projects managed by funding recipients, such as other state agencies or local governments. The State DOT must make arrangements with each Recovery Act funding recipient to assure each recipient reports the required data in a timely manner.

The States shall require the following data be provided by each contractor, consultant and funding recipient working on an Recovery Act project. The primary contractor or consultant for each project shall be responsible for reporting their firm as well as all sub-contractors data.

Format: The State, contractors, or consultant may use the FHWA provided model form, but the use of the model form is optional and at the discretion of the State.

Due date: As determined by the State, until September 2012.

Due to: To be sent by each Recovery Act funded project prime contractor or consultant to the designated office in each State DOT or Federal Lands Division Office.

Coding Instructions

BOX 1. **Report Month:** The month and year covered by the report, as *mm/yyyy* (e.g. "May 2009" would be coded as "05/2009").

BOX 2. **Contracting agency:** The name of the contracting agency. Enter "State" for State DOT projects. For non-State projects, enter the name of the contracting agency (other State agency, Federal agency, tribe, MPO, city, county, or other funding recipient).

BOX 3. **Federal-aid project number:** The State assigned federal-aid project number, consistent with the seven digit format reported in FMIS. For example, the project STM-1222(12) should be reported as "*1222012*"

BOX 4. **State project number or identification number:** The project number or ID, as assigned by the State or its funding recipient, consistent with the format reported in FMIS.

BOX 5. **Project location:** The 2 digit State Federal Information Processing Standard (FIPS) code for the project. If the project is being performed for Federal Lands, provide the 4 digit FLH Division or Federal Land Managing Agency (FLMA) region code. See Appendix A for a list of the State FIPS and FLMA region codes.

BOX 6. **Contractor name and address:** The name and address of the contracting or consulting firm shall include the name, street address, city, state, and zip code.

BOX 7. **Contractor DUNS number:** The unique nine-digit number issued by Dun & Bradstreet. Followed by the optional 4 digit DUNS Plus number. Reported as "*999999999.9999*"

BOX 8. **Employment data:** The prime contractor or consultant will report the direct, on-the-project jobs for their workforce and the workforce of their sub-contractors active during the reporting month. These jobs data include employees actively engaged in projects who work on the jobsite, in the project office, in the home office or telework from a home or other alternative office location. This also includes any engineering personnel, inspectors, sampling and testing technicians, and lab technicians performing work directly in support of the Recovery Act funded project. This does not include material suppliers such as steel, culverts, guardrail, and tool suppliers. States should include in their reports all direct labor associated with the Recovery Act project such as design, construction, and inspection. The States reports should include their own project labor, including permanent, temporary, and contract project staff. States are asked not to include estimated indirect labor, such as material testing, material production or estimated macro-economic impacts. FHWA will be estimating all indirect labor based on the information provided in this form along with other FHWA data. The form requests specifically:

a. **Subcontractor name:** The name of each subcontractor or sub-consultant that was active on the project for the reporting month.

b. **Employees:** The number of project employees on the contractor's or consultant's workforce that month, and the number of project employees for each of the active subcontractors for the reporting month. Do not include material suppliers. Total field at bottom will be automatically calculated and reported as a whole number.

c. **Hours:** The total hours on the specified project for all employees reported on the contractor's or consultant's project workforce that month, and the total hours for all project employees reported for each of the active subcontractors that month. Total field at bottom will be automatically calculated and reported as a whole number.

d. **Payroll:** The total dollar amount of wages paid by the contractor or consultant that month for employees on the specified project, and the total dollar amount of wages paid by each of the active subcontractors that month. Payroll only includes wages and does not included overhead or indirect costs. Total field at bottom will be automatically calculated and will be rounded to the nearest whole dollar and reported as a whole number.

BOX 9. **Prepared by:**

a. **Name:** Indicate the person responsible for preparation of the form. By completing the form the person certifies that they are knowledgeable of the hours worked and employment status for all the employees. Contractors, consultants, and their subs are responsible to maintain data to support the employment form and make it available to the State should they request supporting materials.

b. **Date:** The date that the contractor completed the employment form. Reported as"*mm/dd/yyyy*." (e.g. "May 1, 2009" would be coded as "05/01/2009").

"This collection of information is voluntary and will be used to determine eligibility of project for possible Federal funding. Public reporting burden is estimated to average 30 minutes per response, including the time for reviewing instructions searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for this collection is 2125-0623 with an expiration date of 9/30/2009. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Highway Administration, 1200 New Jersey Ave SE, Washington, DC 20590".

MONTHLY EMPLOYMENT REPORT
AMERICAN RECOVERY AND REINVESTMENT ACT

1. Report Month: (mm/yyyy)	2. Contracting Agency	
3. Federal-Aid Project Number	4. State Project Number or ID Number	5. Project Location: State, County or Federal Region

6. CONTRACTOR NAME AND ADDRESS

Name:

Address:

City: State:

Zip:

7. Contractor/Subcontractor DUNS Number:

8. Employment Data

	EMPLOYEES	HOURS	PAYROLL
Prime Contractor Direct, On-Project Jobs (see guidance for definitions)			
Subcontractor Direct, On-Project Jobs			
Subcontractor Name			
Prime and Subcontractor Totals	0	0	0.00

9. PREPARED BY CEO or Payroll Official:	DATE:
Name:	
Title:	

Form FHWA-1589 (Rev. 3-25)

"This collection of information is voluntary and will be used to determine eligibility of project for possible Federal funding. Public reporting burden is estimated to average 1 hour per response, including the time for reviewing instructions searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for this collection is 2125-0623 with an expiration date of 9/30/2009. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Highway Administration, 1200 New Jersey Ave SE, Washington, DC 20590".

Monthly Summary Employment Report
American Recovery and Reinvestment Act

1. State	2. Report Month (mm/yyyy)

Summary Data

3. Federal-aid Project Number	4. State Project Number or Identification Number	5. Project Description	6. Contractor Name / State or Local Agency	7. Status of Contractor Employment Reports	8. Total Employment (number of employees)	9. Total Hours	10.Total Payroll ($)

Form FHWA-1587 (Rev. 3-25)

Appendix R
Sample ARRA Workforce Report Guidance

For Additional Guidance see the following link:

http://www.fhwa.dot.gov/economicrecovery/reportingforms.htm

BOX 1. Report Month: The month and year covered by the report, as *mm/yyyy* (e.g."May 2009" would be coded as "05/2009").

BOX 2. Contracting agency: The name of the contracting agency. Enter "State" for State DOT projects. For non-State projects, enter the name of the contracting agency (other State agency, Federal agency, tribe, MPO, city, county, or other funding recipient).

BOX 3. Federal-aid project number: The State assigned federal-aid project number, consistent with the format reported in FMIS.

BOX 4. State project number or identification number: The project number or ID, as assigned by the State of its funding recipient, consistent with the format reported in FMIS.

BOX 5. Project location: State where project occurs. If the project performed for Federal Lands, provide the FLH Division or Federal Land Managing Agency (FLMA) region.

BOX 6. Contractor name and address: The name and address of the contracting firm, including the name, street address, city, state, and zip code.

BOX 7. Contractor DUNS number: The unique nine-digit number issued by Dun & Bradstreet. Followed by the optional 4 digit DUNS Plus number. Reported as "*999999999.9999"*

BOX 8. Employment data: The prime contractor will report the direct, on-the-project jobs for their workforce and the workforce of their subcontractors active during the reporting month. These jobs include employees actively engaged in projects who work on the jobsite, in the project office, in the home office or who telework from a home or other alternative office location. This also includes any engineering personnel, inspectors, sampling and testing technicians, and lab technicians performing work directly in support of the ARRA funded project. This does not include material suppliers such as steel, culverts, guardrail, and tool suppliers.

Report project personnel only for all projects funded by the ARRA. Include those company officials and supervisors that are on the project a majority of the time even if they do not appear on payrolls. DO NOT include any company personnel if they are on the project only from time to time and do not have daily, on-site responsibility for project activity.

DO NOT include any home office personnel unless they are assigned exclusively to a project and appear on project payroll. This would involve primarily clerical personnel.

The form requests specifically:
a. Subcontractor name: The name of each subcontractor that was active on the project for the reporting month.
b. Employees: The number of project employees on the contractor's workforce that month, and the number of project employees for each of the active subcontractors for the reporting month. Do not include material suppliers.
c. Hours: The total hours on the specified project for all employees reported on the contractor's project workforce that month, and the total hours for all project employees reported for each of the active subcontractors that month.
d. Payroll: The total dollar amount of wages paid by the contractor that month for employees on the specified project, and the total dollar amount of wages paid by each of the active subcontractors that month. Payroll column only includes wages and does not included overhead or indirect costs.

BOX 9. Prepared by:
a. Name: Indicate the person responsible for preparation of the form. By completing the form the person certifies that they are knowledgeable of the hours worked and employment status for all the employees. Contractors and their subs are responsible to maintain data to support the employment form and make it available to the State should they request supporting materials.
b. Date: The date that the contractor completed the employment form. Reported as "*mm/dd/yyyy*." (e.g. "May 1, 2009" would be coded as "05/01/2009").

3/27/09